DX-SR8 / T / E

Service Manual

CONTENTS

ALINCO, INC.

SPECIFICATIONS

General		DX-SR8 ALL MODELS
Operating mode		J3E (USB, LSB),A3E (AM), A1A (CW), F3E (FM)
Number of memory channels		600 channels simplex
Antenna impedance		50Ω unbalanced
Frequency stability		±1ppm
Power requirement		13.8V DC±15% (11.7 to 15.8V)
Ground method		Negative ground
Current drain	Receive	1.0A (max.) 0.7A (Squelched)
	Transmit	20A
Operating temperature		-10°C to 60°C (+14°F to +140°F)
Dimensions		240 (w) x 94 (h) x255 (d) mm (Projections not included)
		(9.45"(w) x 3.7"(h) x 10"(d))
		240 (w) x 100 (h) x 293 (d) mm
		(9.45"(w) x 3.94" (h) x 11.54"(d))
Weight		Approx. 4.1kg (9 pounds)
Transmitter		
Power output	SSB, CW, FM	100W (Hi) Approx.10W (LOW) Approx.1W (S-LOW)
	AM	40W (Hi) Approw.4W (LOW) Approx.0.4W (S-LOW)
Modulation system	SSB	Balanced modulation
	AM	Lo power modulation
	FM	Reactance modulation
Spurious emissions		Less than -50 dB (Less than -45dB in 30 m band)
Carrier suppression		More than 40 dB
Unwanted sideband		More than 50dB (1 kHz)
Maximum FM deviation		±2.5 kHz
Receiver		
Receiver type		Double conversion superheterodyne
Sensitivity	SSB	(0.15 to 1.8 MHz) 0dBu (1uV)
	CW	(1.8 to 30MHz) -12dBu (10uV)
	AM	(0.15 to 1.8MHz) +20dBu (10uV)
		(1.8 to 30 MHz) +6dBu (2uV)
	FM	(28 to 30 MHz) -6dBu (0.5uV)
Intermediate frequency		1st 71.75MHz 2nd 455kHz
Selectivity	SSB, CW, AM (narrow)	2.4kHz / -6dB 4.5kHz / -60dB
	AM, FM	6kHz / -6dB 18kHz / -60dB
Spurious and image rejection ratio		More than 70dB
Audio output power		More than 2.0W (8Ω, 10%THD)
RIT variable range		±1.2 kHz

	DX-SR8
Microphone impedance	2kΩ
Transmit Frequency coverage	1.6MHz - 29.99999MHz
Receiver Frequency coverage	30kHz - 34.99999MHz

		DX-SR8T	DX-SR8E
Microphone impedance		300Ω	
Transmit Frequency coverage	160m band (1.8M)	1.80000 - 1.99999MHz	1.80000 - 1.99999MHz
	80m band (3.5M)	3.50000 - 3.99999MHz	3.40000 - 3.99999MHz
	*60m band (5.3M)	5.33050 MHz	-
		5.34650MHz	
		5.36650MHz	
		5.37150MHz	
		5.40350MHz	
	40m band (7M)	7.00000 - 7.29999MHz	6.90000 - 7.49999MHz
	30m band (10M)	10.10000 - 10.14999MHz	9.90000 - 10.49999MHz
	20m band (14M)	14.00000 - 14.34999MHz	13.90000 - 14.49999MHz
	17m band (18M)	18.06800 - 18.16799MHz	17.90000 - 18.49999MHz
	15m band (21M)	21.00000 - -21.4999MHz	20.90000 - 21.49999MHz
	12m band (24M)	24.89000 - 24.98999MHz	24.40000 - 25.09999MHz
	10m band (28M)	28.00000 - 29.69999MHz	28.00000 - 29.99999MHz
Receiver Frequency coverage		135kHz - 29.99999MHz	135kahz - 29.99999Mhz

* TX output power of 60 m band is limited to 50 W. (High ; LOW 10W, S-LOW 1 W)

CIRCUIT DESCRIPTION

1) Receiver System

1. PA Unit

SA901 and R903 are installed in the input part of antenna terminal as the countermeasure against the thunder. The electric charge of antenna is discharged at R903, and when the voltage becomes over about 300V, the gap of SA901 is discharged so that the receiving input circuit is protected.
The input signal from antenna is passed through the Tx/Rx selecting relay (RL903) and passes thru the attenuator of about 20dB (RL906 ON or OFF). The followings are prevented in LPF consisting of L904, L905, C913, C914, and C915: 2m band image receiving, passing through the First IF (71.75MHz) and leaking of the first local oscillating frequency (71.88654~106.75153) to the antenna terminal.

2. Main Unit

a. Front End

The receiving signal output from PA Unit is fed to Main unit through CN108. HPF, consisting of L122, L123, C154, C156, C158, C160, C167, and C168, eliminates the strong radio signal of MW band of 1.6MHz or below. In case of receiving the signal of 1.6MHz or below, the received signal is passed through the low pass Filter (L118, L119, C155, C162, and C163). BPF consists of 8 filters. Each filter covers the following frequency range. The frequency of 2.5MHz or more consists of Chebyshev BPF, and under 2.5MHz frequency band is LPF.

Range			For amateur band
	-1.6MHz	BPF1	
1.6	-2.5MHz	BPF2	1.8MHz
2.5	-4.5MHz	BPF3	3.5MHz
4.5	-7.5MHz	BPF4	7MHz
7.5	-10.5MHz	BPF1	10MHz
10.5	-14.5MHz	BPF2	14MHz
14.5	-21.5MHz	BPF3	18,21MHz
21.5	-30MHz	BPF4	24,28MHz
50	-54MHz	BPF5	50MHz

Passing through BPF, the signal turns ON/OFF in the switching diode, D120 and D121. This preamplifier is the parallel grounded gate operation of Q128 and Q130 (2SK2539), so the unit can obtain a good performance at a high level input signal with low NF.
The wide range frequency from about 1MHz to 60MHz is amplified about 10dB. This 10dB preamplifier and 20dB attenuator in the PA unit are combined, then by pressing RF gain switch on the front panel, one of four steps, -20, -10, 0, or + 10dB is selected.
The LPF consisting of L146, L147, C235, C236, C252 and C253, prevents the following first receiving mixer from the local oscillation leaking, and also prevents the first IF and image of the spurious receiving.
The first receiving mixer consisting of Q128 and Q130 is the balanced mixer, in which the local oscillating signal is led to the gate of 2SK2539. The 3rd intercept point is about 20dBm, and local oscillator of about 2V P-P is led to the gate. The receiving signal is converted into the first IF of 71.75MHz.

b. The First IF Amplifier Circuit

XF102 and XF103 are the crystal filters of 71.75MHz. By the combination of two filters, the unit has the characteristics of the band width of 15kHz or more 3dB and the value of guaranteed attenuation of 70dB or more. Here the image ratio is determined 70dB or more (approx. 80dB). The first IF amplifier circuit of Q124 located between the crystal filters to prevent the loss in the front-end and mutual interference.
The first IF amplifier circuit Q124 decides the sensitivity after passing the mixer. AGC voltage is applied to the second gate.

c. The Second Mixer Circuit, The Second Amplifier Circuit

DBM (Double Balanced Mixer) consists of L114, D111 and L115. The signal is passed in the opposite direction while receiving or transmitting in this DBM. Approximately 0dBm is fed as the second local oscillating level, and the third IP is approximately 10dBm.
The receiving signal (71.75MHz) and the second local oscillating frequency (71.295MHz) is mixed, and unwanted signal is eliminated in LPF consisting of L101, L102 and C119, then the signal of 455kHz is generated. After passing through the switching diode D108, the signal is amplified in Q110. The source of Q110 is controlled by the output of the noise blanker circuit.

d. IF Filter

After passing through the transmission/reception switching diode D110, the signal is led to one of three ceramic filters of 455kHz. The selectivity is decided here except CW narrow.

SSB, AM-NARROW	FL3(CFJ455K5)	2.4kHz/-6dB	4.5kHz/-60dB
SSB-NARROW, CW	FL2(CFJ455KB)	1.0kHz/-6dB	3.0kHz/-60dB
FM, AM	FL4(CFW455G)	9kHz/-6dB	20kHz/-50dB

There are two switching diodes for input and output of each filter (D129 to D150), securing isolation. The isolation required is more than the guaranteed attenuation for each filter (about 70dB). The filters not used are shorted by diodes parallel to the filters and cut by the diodes in series, therefore the combination achieves high level of isolation from the signal. The filter switching is done by the Q141, Q142, Q143, Q145, D128, D145, D146 and D151, and the switching configuration depends on the mode, Tx/Rx, and Wide/Narrow status.

e. Second I.F. Amp

After the filter, passing thru a Tx/Rx switching diode (D128), the signal is amplified by the Q138 and Q139, and buffered by the Q137. The second gates of the Q110, Q138 and Q139 are controlled by the AGC circuit. The level of the received signal for which AGC is applied is of high amplitude and constant at the output of the Q137.
This output is used for demodulation of SSB, AM, and CW modes besides used for AGC detection. In the FM mode, the signal having amplified by the Q138 is partly input to the IC110 (MC3357) thru the C353 and is amplified and demodulated. The demodulated signal is amplified by an op-amp inside the IC110. A feedback resistor (R351) has a parallel capacitor (C365) for de-emphasis. The Q110, Q138 and Q139 are also operational during the FM mode and the AGC is effected.

f. Demodulator

When in SSB or CW mode, the local oscillation signal mentioned below from DDS circuit is input to the balanced mixer of the IC104. The received signal is input to pin No.5, the local signal at 5V p-p to pin No.7. The Q610 is amplifier that amplifies the local signal to 5V p-p.

Local Osc :	USB	456.5kHz + IF SHIFT
	LSB	453.5kHz + IF SHIFT
	CWU	455.0kHz + (sidetone freq) + IF SHIFT
	CWL	455.0kHz - (sidetone freq) + IF SHIFT

g. CW Audio Filter

The IC4 is an active filter combined of high pass and low pass filters by op-amps, which has a passband of about 600Hz (-6dB) with its centre at about 800Hz.

h. AF Switching/AGC Time-Constant Switching

The IC107 is an analogue multiplexer with two channels and four contacts, which switches the demodulated output and AGC time-constant dependent on mode. The mode voltage is made by combination of the D139 and D140, which is input to pin No.9 and 10, thereby switching CW audio filter output and demodulated output of (SSB), FM, and AM. While transmitting, 8V is imposed to pin No.6 (inhibit) turning the demodulated output off.

i. AF Amplifier

The AF signal, after passing thru an analogue switch, is amplified by about 50dB with the IC113:A. The output of pin No.1 of the IC113A is fed to AF Gain potentiometer for audio output control. The potentiometer output is voltage-divided with the R383 and R392 and is fed to the IC112, an AF amp. By said voltage division, input level is adjusted at the same time the input impedance is lowered for the IC112 therefore residue noise is lowered.
The IC112 is an AF power amp, while the Q147 and C393 form ripple filter. Over 2W output is obtained at 8 ohm load and 10% distortion. This output is used as the terminal of packet RTTY, SSTV, etc.

j. AGC

The AGC is affecting to one stage in the first IF circuit, and three stages in the second IF circuit, a total of four stages. Each amplifier stage is made of 3SK293 with AGC on the second gate. The bias on the first gate of 3SK293, and the source resistor and voltage at the second gate have been determined their operational level so that the gain is lowered linearly against the voltage lowering at the second gate. (The source resistor: 470 ohm; the first gate about 3.7). The D144 is for signal detection and the Q140 is for DC amplification. The anode of the D135 is set at 4.1V by the R321, D135, R280 and R292. Since little current flows through the IC106C feedback resistor the VR104, input resistor R290 and D135 to R321, the voltage of AGC line is about 4.2V. When there is detection voltage on the D144 due to receiver input signal, the Q140 attempts to lower the AGC voltage. When AGC is set FAST in SSB or CW, there is the C336 between AGC line and the power supply. The raise in receiver input signal is AGC controlled dependent on the time-constant which is determined by R326 and C336 hence the transient response is set. Discharging is determined by the C336 and R290 and the resulting characteristic is of fast-attack/slow delay type.

When the AGC is set to SLOW, an analogue switch in the IC108 turns ON and the R333 and C351 comes in parallel, and R333 with C351 makes discharge time longer without affecting the attack time.When in AM mode, the C325 is further added in parallel, which delays the attack time and the AGC response becomes of average-value type. The D135 are for temperature compensation. If the received signal delays with a narrow filter before AGC detection followed by AGC-detection and amplification further delaying for AGC-detection, it would cause amplifying with more gain and this loop would start hunting effects. For anti-hunting purpose in this regard, the AGC has more CR time-constant and slower operation as applicable stage comes closer to the antenna input. The final stage of I.F. varies its amplification immediately by the AGC detection voltage resulting in uniform level received signal, dependent on the transient response. That is, if the received signal suddenly increases, the received output would first be controlled for uniform output by the I.F. final stage, then step by step the AGC is applied to earlier stages, finally affecting the AGC on the final stage to be smaller. For AM reception, there is already AGC voltage due to carrier, and the AGC is averaged independent of the modulation level.

k. S-meter, Squelch

TThe output of IC106C is sent to the CPU to display the S-meter. The output signal of IC106C is fed to pin IC106D. The voltage of pin No.13 of IC106D is determined by the squelch VR of front unit. Comparing with this voltage, the squelch is opened or closed. During the check operation the CPU output decreases the voltage of squelch VR in front side to open the squelch deliberately. The squelch output controls the IC106C, at the same time it is provided to the front unit to light RX LED.

l. Noise Blanker

This circuit eliminates the pulse noise of a car, etc. Because the noise emitting time is short, in this duration the operation of receiver is stopped to prevent the unit from emitting a noise. The pulse noise is delayed when it is passed through the narrow band filter, and the emitting time becomes longer. It makes difficult to eliminate the noise, so it is necessary to eliminate the noise in the earlier stage. A part of the second mixer output, whose band width is limited, is amplified in Q118, Q114, Q115, and Q116. The signal is detected in D115 and D118, and the AGC voltage is applied to Q115, Q114 and Q116.
The charge time constant of this AGC is determined by R192 and C201, and also the discharge constant is determined by R191+R192, C201. The voltage of AGC does not rise suddenly because of the charge constant, so that this voltage is not applied to almost all the short signals such as pulse noise, but is applied to the continuous signals such as receiving signal and amplifier gain is decreased.nal.

2) Transmitter

1. MAIN Unit

a. Mic Amp

The input signal from microphone goes thru mic-gain pot the VR117 and is fed to a low noise amp the Q180. At the mic terminal there is an 5V bias thru the R109 for providing voltage to certain type of mics. The IC119A has the gain (about 20dB) which is determined by the R492 and R512. When in FM mode, the gain increases by about 35dB due to the R494 parallel to the R512 thru the Q175, and by the C465 the lower cut-off frequency is increased thereby activating pre-emphasis and limiter. When in SSB or AM, if the speech compressor is turned ON, the gain increases by about 35dB due to the C460, R487, and Q172, and the IC119:A works as a limiter. The C460 cuts off lower spectrum portion and the audio quality becomes suitable for speech compression. The in FM, the gain is adequately obtained and there is no effect of speech compression. If the FM sub-tone is activated, the output of the IC119:A pin No.1 is voltage divided by the R499 and R509, and the sub-tone fed thru the R509. The IC119:B is a low pass filter which works as a splatter filter when in FM and a low pass filter when speech compressor is in use. The output is either fed to PLL circuit for FM modulating, or to the IC105 for balanced modulation. The output of the IC105 is muted by the Q178 when in CW or FM.

b. Balanced Mixer

IC105 is the balanced mixer, and the carrier is suppressed in SSB mode. To get more ratio or carrier suppression, the balance adjustment of VR102 and VR103 are applied. The carrier is necessary in CW/FM/AM mode, so the input of Pin7 is made unbalanced by applying the DC voltage to obtain the carrier. By applying the DC in AM/FM mode, or by keying in CW mode, the balance is broken to obtain the carrier wave. VR115 is used for the adjustment or carrier level in AM/FM mode. VR118 is used for the adjustment of carrier level in CW mode. In the AM mode, the DC and modulation is added simultaneously. In SSB mode, the modulation is added by R488. In AM mode, D174 is DC-biased and turned ON. Then the attenuator consisting of R488 and R443 or R523 limits the modulation.

c. IF filter

The output of the IC105 goes thru a temperature compensating thermistor TH101 and the D128 and is fed to bandwidth limiting I.F. filter. Pulling up cathode of the D128 when in Tx (and L when in Rx) makes Tx/Rx isolation better. When in SSB mode, the signal becomes DSB without the carrier. Switching of the filters is done by the diode switching mentioned before. For each respective mode, filters are used as follows.

SSB, CW, AM-NARROW	FL102 (CFJ455K5)	2.4KHz/-6dB	4.5KHz/-60dB
CW-NARROW	FL101 (CFJ455K8)	1.0KHz/-6dB	3.0KHz/-60dB
FM, AM	FL103 (CFW455G)	9.0KHz/-6dB	20KHz/-50dB

d. IF Amp, Second Mixer

Having passed the filter, the signal passes thru a switching diode (D110), amp (Q104), and the D108, and thru the second mixer in reverse direction of Rx, making 71.75 MHz signal. The Q107 depends on CW keying that improves isolation when CW key is up. An ALC voltage is applied on the second gate of the Q104. Signals from 71.295MHz local oscillator and reverse heterodyne are filtered by the XF102. The signal is amplified by the Q614 and is input to a balanced mixer. (D111).

e. Transmitter First Mixer

The first transmit mixer comprising of the Q103, Q108, L104 and L117 is a balanced type mixer and input about 3dBm of local oscillator (71.75MHz+TxFreq) to obtain the wanted frequency. The signal converted to the wanted frequency by the first Tx mixer is passed thru an LPF to filter out the local frequency and image components before it is input to the Tx preamp.

f. Tx Pre AMP

The Q105 is a wide band amplifier. It can put out high power with saturating output of about + 13dBm and more than 20dB gain. Inserting attenuators on both the input and output make it widen its range with more stability. The output at the Transmitter First Mixer is about 0dBm when the transmitter power is 100W.

g. CW Keying Circuit

By keying, the Q165 is turned on to the base of the Q162 in the main unit is pulled to Low which causes the collector to output a voltage. This output controls all the circuit which operates by CW keying. The output of the Q162 collector goes thru the D180, IC105, VR103, and D126 and by applying a DC voltage to the balanced mixer it unbalances the mixer and generates a carrier. VR118 determines the CW waveform of rising edges and falling edges by adjusting the carrier level in R525 and C488. At the same time, the Q159 is turned ON to turn OFF the Q107 isolating in keying. The C428 makes the Q107 OFF duration longer than keying duration to avoid effects to the output waveform. By the D180 a voltage is input to pin No.10 of the IC119:C, and by the output from pin NO.8 the Q161 is turned ON and the D171 pulling the PTT line down to Low brings the transmitter ON. The capacitors at the input of pin No.10 of the IC119:C (C246, C247) determines transmit time delay after stop of keying. The BK1, BK2, and BK3 are 3 bit break-in time constant voltages which are combined by the combination of the R469, R470 and R471 as D/A for obtaining 8 levels of voltage. When all of the BK1, BK2, and BK3 are low, the status if full-break-in, when more than one of the BK1, BK2, and BK3 have voltage the status is semi-break-in and the break-in time fastest when all of them have voltage. When in full-break-in, each of the BK1, BK2, and BK3, voltages are low hence the Q164 is OFF, making a very fast discharge time-constant with the C431 alone. When either of several of the BK1, BK2, or BK3 has voltage, the Q164 would turn ON and the C434 would be added parallel to the C431 making the time-constant longer which determines the delay time for semi-break-in. There are 7 levels of semi-break-in voltages out of the BK1, BK2, and BK3, that is fed to the IC119:C as comparative voltage to change the discharge time constant. Thus the time constant is the shortest if all of the BK1, BK2 ,BK3 outputs voltage. When in AUTO-break-in, the output is from BK1 only, and the comparative voltage for the IC119:C is controlled with the output voltage of the IC119:D. The keying output when in AUTO mode is output with each keying using the one-shot multi-vibrator comprising of the IC120:A and B. Hence the average value of the IC120:A output voltage would be proportional to average speed of keying. To obtain average voltage, the R463 and C432, etc. are used for integrating, and the output is DC amplified by the IC119:D whose output is used as comparative voltage for keying. The D182 is for turning OFF when in AUTO mode; when AUTO is low, the voltage charging the C432 is shorted and AUTO is stopped.

The D179 and R457 help to follow speeding up the keying, while the D176 and R458 determine the discharging time constant in transmission and elongate the time constant in reception so that it compensates the time constant recovery during the reception. By doing this, the circuit can follow the keying speed; transmission can continue between letters; and reception can take place between words. The circuit is good typically between 30 characters per minute to 200 characters per minute.

h. Power Control/ALC Circuit

The forward voltage obtained in the PA unit correspondent with transmit power is input to the IC118:A for invert amplification. At the non-inverting input there is a voltage, and the output voltage is shifted by the non-inverted input voltage. There is already about 4.0V on the ALC line which is applied to the second gate of amplification stage that is under ALC control. When a forward voltage is applied, the output voltage of the IC118:A goes down, and when becomes lower than about 3V, the D160 lowers the voltage of the ALC line. The VR112 is for adjusting the Tx output to 100W (High power). The VR119 is for adjusting the Tx output to 10W (Low power). The VR120 is for adjusting the Tx output to 1W (super Low power). By I is soldering, Q166 turns ON and by having the VR114 in parallel the voltage is brought down to result in 50W. When in AM, the R448 comes in parallel to lower the output to 40W. When in Low power, the LOW line brings the R528 and VR119 in parallel to lower the voltage. When in super Low power, the slow line brings the R529 and VR120 in parallel to lower the voltage. The Q158 and VR113 are for making the (antenna matcher) TUNE output to 10W output. Necessary output, however, may be different depending on the automatic tuner. When the SWR is high, reflected voltage turns on the Q158 lowering the power. The Q158 is activated from SWR 3 approximately.

i. Overcurrent Protection

The voltage difference detected in the PA unit by the final collector current us differentially amplified by the IC118:B. The output voltage lowers as current increases and at some point the ALC line is pulled down thru the D160 lowering the output power. The operating point is determined by the VR110.

j. RF meter circuit, ALC Indication

The forward voltage is amplified by the IC118:D for driving the meter. The D164, R433 and C419 are for instant peak-holding to show the meter more visible. The D163 and D136 switch to S-meter. The ALC voltage is invert amplified by the IC118:C. The output voltage is divided from 8V thereby lowering the feedback resistance so that tolerance caused by bias-leakage is minimized; further this feedback resistor lets some current to the R423 to obtain 4.0V to the ALC line. The output is fed to the base of the Q150, leading to the front unit tell the CPU to switch Tx and Rx besides illuminating the Tx LED.

2. PA Unit

a. Power Amp

The signal input is amplified by the Q803 to about 100mW. By having the idling current of about 100mA the amplification is A-class. With the feedback the frequency response is compensated, and with a capacitor parallel to the emitter resistor the frequency is compensated totally. Then the signal is amplified to about 5 watt with the Q801 and Q805 (RD16HHF1) where the idling current is 800mA (adjusted with the VR804) in push-pull configuration. The D804 and D805 is thermally contacting the Q801 and Q805 to compensate idling temperature.

b. Final Power Amp

There is about 1.6A of idling current in the final amp circuit consisting of the Q802 and Q804 (RD100HHF1). The D801 and D802 are thermally conducting with the Q802 and Q804 for temperature compensation. Feedbacks exist thru the R804 and R822 from collector side averaging the gain in a wide range. The output of 100W goes to the filter circuit. The collector current of the Q802/Q804 is detected due to the voltage drop caused by resistance of the FB803 and L801, and is output to the main unit.

c. Cooling Fan Control

The fan is controlled under the temperature of the Q802 and Q804 which is sensed by a thermistor (TH801). While transmitting, due to temperature rise, the resistance of the TH801 goes down and voltage of inverted input for the Pin No.1 of IC101 (MAIN UNIT) goes down. The IC101 (Pin No.1) input is applied a voltage corresponding to its voltage thus is compared. When the temperature is over 50 degrees Celsius approximately, the inverted-input voltage would go down with comparative voltage, and by the comparator output voltage of the Pin No.74 of IC101, the Q183 is turned ON and the fan starts running.

d. Protection Circuit

As a protection for the final power amp, power down circuits detecting SWR excessive current, and temperature rise have been installed.

3) Peripheral Circuits

1. Beep and Sidetone Circuit

Sidetone is output by the STON line at pin No.24 of the CPU (MAIM UNIT) in square wave. Beep is output by the beep line at pin No.16 of the CPU (MAIN UNIT) in square wave. The sidetone frequency is switchable in the range of 400Hz to 1kHz. The VR1 is the volume control put which leads to the AP amp.

2. Tune Circuit

At the start of the tuning, the TUNE voltage comes out by which the one-shot multi-vibrator operates and by the Q168 approximately 8V is output to command the external auto tuner as a starting signal. Separately, an output which goes low while tuning is created by the Q169 using the TUNE voltage. When the starting signal is received by the external auto tuner (e.g. EDX-2), the tuner outputs the said (low) output at TKEY terminal. The radio's CPU monitors the TKEY terminal and while the voltage is at low level the radio is put to the TUNE mode. If the TKEY terminal is low for more than 20 seconds, the CPU releases the TUNE mode. During the TUNE mode the radio transmits in AM mode besides microphone is muted and the carrier is suppressed at 10W (adjustable).

3. Regulated Power Supply

The IC115 is a regulated power supply of 8V output. The voltage necessary for transmission, namely T8V is created by the Q149, and for reception R8V by the Q152. The IC117, Q151 and Q155 are Tx/Rx control. When PTT line is grounded at the output of the Q161 by mic's PTT or CW keying, a High level is output from the IC117:C, and buffered by the Q150 the output is sent to the CPU in the front unit for Tx/Rx switching. The IC117:C, having delayed the rising of reception with the R413, C408, and D158, controls Q149 with Q151. When transmitting, the current flows from 13.8V thru the R410 and D156, and since the Q149's base voltage is higher by one diode difference than 8V, the emitter output will be just 8V. When transmitting, the Q151 is turned ON thus the Q149's base voltage will be 0V, resulting no output on T8V line. When receiving, the T8V line is shorted by the D157 to discharge remaining charges in the capacitors on T8V line. The Q152 while receiving, similarly as T8V line, has currents coming thru the D167 and R432 from the 13.8V line, and since the base voltage of the Q152 is higher by one diode voltage than 8V, the base voltage of the Q152 will be 0V hence no output on R8V line. When transmitting, the R8V line is shorted by the D168 to discharge remaining charges in the capacitors on R8V line. The input to the IC117:D, which goes low when reception is started, is delayed with the R421 and C412, then inverted by the IC117:B, followed by the Q155 to control R8V. If a voltage is applied to pin No.8 of IC117:C, the output at pin No.10 would vary with PTT going Low, hence a PTT Lock is activated.

4. Mode Voltage Functions Control, BPF/LPF Switching

The CPU (MAIN UNIT) is controlling the mode voltage, preamp On/Off, Attenuator, Power, BPF/LPF switching, AGC, break-in, and PTT-Lock. For each mode, the Q167, Q170, Q171, Q177, Q179, Q181 and Q182 are turned on providing 8V.

5. Low Pass Filter

The output from the final power amp goes through the low pass filter removing the harmonics. The input/output for this filter is switched with a relay, and the filters not used are shorted to ground thru relays. The LPF control utilizes the control voltage for the BPF in the main unit. Each LPF is made of 5 pole Chebyshev filters, attenuating the second and higher order harmonics by more than 40dB.

L0	~2.5MHz	BPF0, BPF1	1.8MHz band
L1	2.5MHz~4.0MHz	BPF2	3.5MHz band
L2	4.0MHz~7.5MHz	BPF3	7MHz band
L3	7.5MHz~14.5MHz	BPF4, BPF5	10,14MHz band
L4	14.5MHz~21.5MHz	BPF6	18,21MHz band
L5	21.5MHz~30.0MHz	BPF7	24,28MHz band

The transmitting signal, having removed spurious contents by the LPF goes thru the power detection circuit and
Tx/Rx switching relay.

6. Power Detection Circuit

The L901 is made by bifilar winding on a toroidal core in 10 turns. Hence the two sides will have 20 turns with a center tap. When the jumper wire goes thru the hole of the core, this itself is considered one turn having 1:20 transformer. Since there are the R902 and R904 in parallel, it effectively means 50 ohm load existing on both ends. For the jumper wire, it is equivalent to having 50Ω/(20*20)=0.125Ω resistor existing in series. Hence when outputting 100W, the voltage applied to ends of the said quasi-resistor is:

$$0.125/(50+0.125)^* \sqrt{(100^*50)} = 0.176V$$

Since the turn ratio is 20:1, the voltage between the L901 is [0.176*20=3.52V]

The center tap of the coil has the voltage a half of the above therefore the current will flow reversely to that in the jumper wire. A voltage divided by the TC901 and C904 is applied to the center tap, the voltage being in phase with that in the jumper wire. If the voltage is adjusted with the TC901 to be equal to the enter tap voltage, the R908 would have the voltages in phase adding each other, and the R909 would have inverted phase canceling each other. If the antenna impedance changes, there would be a differential voltage on the R909 without having cancellation due to phase or voltage difference hence having a DC voltage after passing thru the D902. In this way, the voltage applied on the R913 is proportional to the output power (forward voltage) and on the R914 is to the reflected power (reflected voltage). Thus the output and reflected powers are detected and in the main unit the power is controlled.

7. Power Switch

Pressing the SW1 turns the RL801 contact ON and 13.8V is supplied. At the same time, the Q101 is turned on and 5V is supplied.

8. Power Supply and Resetting

The IC102, resetting IC for resetting the CPU, turns on and off at 4.5V. When OFF (0V) the CPU resets. Then the IC1004's reset signal goes Low and the CPU stops. The IC116 is the power supply for the CPU, which is made separate in order for the voltage to sustain 5V until the data is written to the EEPROM and resetting signal is input.

9. Dimmer

A regulated power supply of 8V is made of the IC115. The voltage of 8V is supplied to D3, D4, D5 and D6. The CPU's EN output is a pulse, which current value from D3 to D6 is set. When the illumination is at the highest intensity, the EN output is constant at 5V.

10. LCD

The CPU turns ON the LCD via segment and common terminals with 1/4 the duty and 1/3 the bias, at the frame frequency of 125Hz.

11. Tone

The CPU (IC101) is equipped with an internal tone encoder. The tone signal (67.0 to 250.3Hz) is output from pin 45 of CPU. The output of the CPU leading to the mic amp LPF having mixed with audio signal. The tone is output only when in FM mode.

12. Electronic Keye

The CPU (IC101) is activated by input to pin No.68 for dots, and pin No.69 for dash. When ElecKey is ON, the electronic keyer in ON, and when Eleckey is OFF the keying is of semi-automatic (the "bug key") operation.

13. Cloning

The pin 58 of CPU is clone data transmission, and the pin 57 of CPU is receiving data. Each data is of one line, and input/output is done thru JK2 on the front unit.

14. Miscellaneous

The X1 is a ceramic resonator of 8MHz carefully chosen on its harmonics not interfering on amateur bands. For the front panel switches, the Y0, Y1, Y2 and Y3 with regard to the DB0~DB5 are monitored to determine which key is pressed. On the terminals of RIT and IF-Shift pots, 5V is applied and the voltage at the input of A/D determines the positions of these pots. The Q1 is for transmit detection whose output from the main unit and illuminating the Tx LED. For this reason it cannot be directly input to the CPU therefore the change is only either on or off. The Q2 is the squelch output from the main unit which illuminates the Rx LED.

4) PLL Synthesizer circuits

1. Reference frequency oscillator circuit

The reference oscillation frequency for the PLL of the second local oscillator reference and DDS clock, etc. is set at 16.777216MHz. The signal is oscillated by the X601, Q609, and Q611 buffered with the Q608. It is used for the DDS clock for BFO oscillation. It is further divided 1/2064 with the IC606 to 8.128496KHz for the second local oscillator PLL (IC606) reference frequency.

2. First Local Oscillator

The Q605 is a Hartley oscillator with the Q605 gate grounded which works as VCO with the oscillation frequency range of 71.75 to 106.75MHz. The Q601 eliminates ripples for stabilizing the power supply, while the Q604 is a buffer circuit. The output is divided 1/8 with the IC610 and divided 1/5 with the IC611, hence 1/4 of the first local oscillator frequency (about 1.8 to 2.5MHz) is input to the phase comparator IC607. Meanwhile the DDS in the IC603 can output in 0.25Hz step, and with a D/A converter of 10bit and LPF, a sinusoidal wave that is 1/40 of the first local frequency can be obtained. This output, with the phase comparator will control the signal. The oscillator output frequency will be 10Hz patch (0.25*40), The IC607 output goes thru a loop filter which is made of high response, low noise op-amp inside the IC601A; controlling the D602, the oscillation frequency is controlled. To widen the lock range, some voltages are supplied to cathodes of the D602. The locking voltage applicable to the anode of the D602 is in a wide range of 2V to +6V. The IC602 and the Q603 are the necessary negative voltage, and about -6.5V is attained.

3. Second Local Oscillator

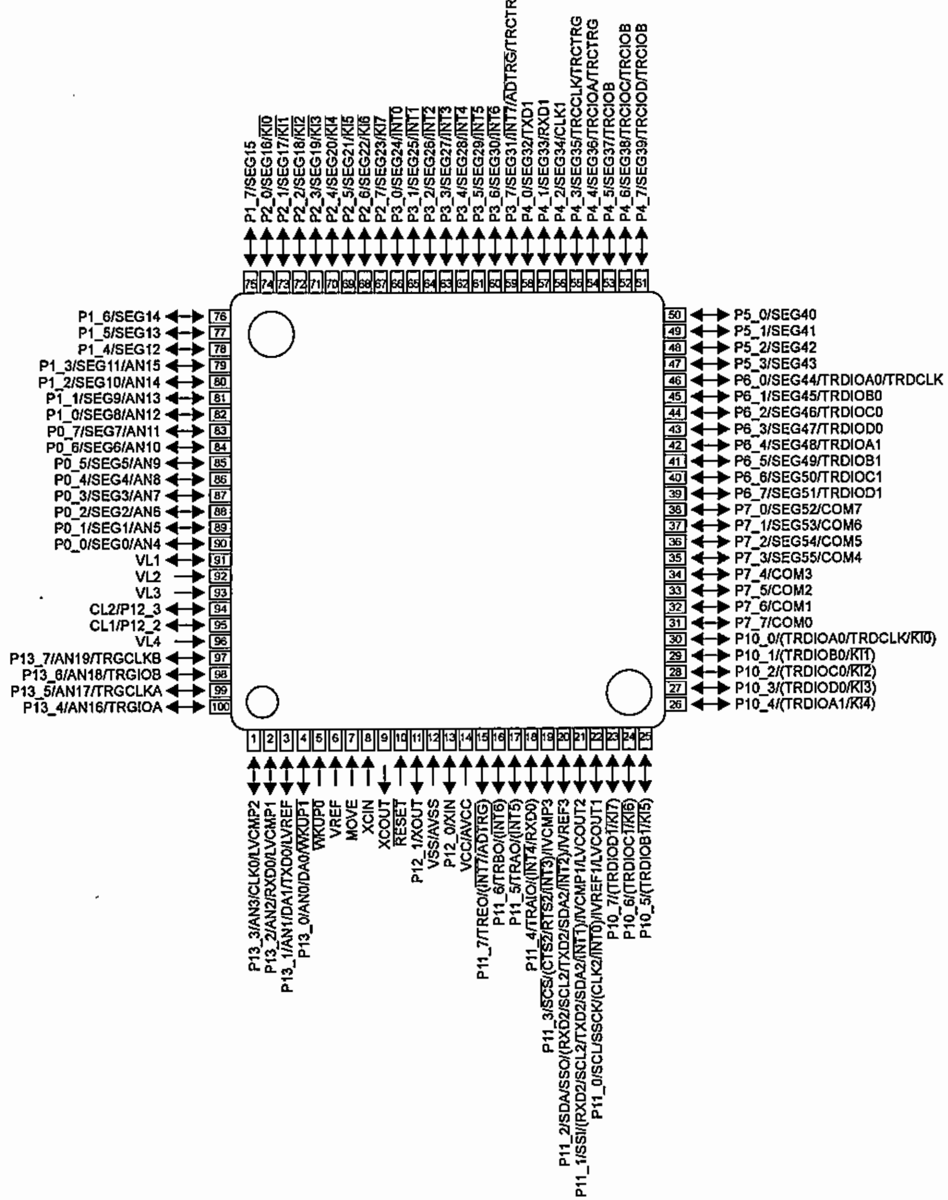
The reference oscillation frequency input to the IC606 is 8.388608MHz which is divided 1/2064 inside, and the comparison frequency is about 8.128496KHz. The Q615 is a VCO with 71.295 MHz which is buffered with Q616. The output is amplified by the amplifier Q620, and dividing it 1/8771 in the IC606, it is fed to a phase comparator and thru a loop filter, the oscillation frequency is output, controlled by the D605. Also, this output is amplified by the amplifier Q614 and fed to the second mixer circuit. When transmitting FM, the anode of the D605 will be superimposed by the modulating signal from the microphone, modulating into FM signal. When in FM mode, the C697 is added to a loop filter by the Q618, having the time constant larger and the control under the modulation is unable, a modulated signal is created thru the VCO. The IC605 is an analog switch which enables frequency modulation on the VCO only when in FM mode.

4. I.F. Shifting (ΔIF)

When in SSB or CW, by varying the first local and BFO interlocked, it is possible to change the relative receiving bandwidth without changing the receiving frequency. The range for the I.F. shifting for DX-SR8 is +/-1.5kHz in 50Hz pitch.

5) R5F2L3ACANFP#U1 (XA1400 / XA1442)
FRONT / MAIN CPU

Terminal Connection
(TOP VIEW)



FRONT CPU (XA1400)

No.	Terminal	Signal	I/O	Description
1	P13	UP	I	UP Key input
2	P13/RXD0	RXD	I	UART data reception input
3	P13/TXD0	TXD	O	UART data transmission output
4	P13		-	
5	WKUP	GND	-	GND
6	VREF	5V	-	5V
7	MODE	5V	-	5V
8	XCIN		-	
9	XCOUT		-	
10	RESET	RESET	I	Reset input
11	XOUT	XOUT	O	Main clock output
12	VSS	GND	-	CPU GND
13	XIN	XIN	I	Main clock input
14	VCC	5V	-	CPU power terminal
15	P11	EN	O	LCD Dimmer
16	INT6	PTT	I	PTT input
17	P11	DOWN	I	DOWN Key input
18	INT4	DIAL1	I	Rotary encoder input
19	INT3	DIAL2	I	
20	P11	Y0	O	Key matrix input
21	P11	Y1	O	
22	P11	Y2	O	
23	P11	Y3	O	
24	KI6	DB0	I	Key matrix input
25	KI5	DB1	I	
26	KI4	DB2	I	
27	KI3	DB3	I	
28	KI2	DB4	I	
29	KI1	DB5	I	
30	P10	MUTE	O	Microphone mute
31	COM0	COM0	O	LCD COM0 output
32	COM1	COM1	O	LCD COM1 output
33	COM2	COM2	O	LCD COM2 output
34	COM3	COM3	O	LCD COM3 output
35	SEG55	SEG55	O	LCD segment signal
36	SEG54	SEG54	O	
37	SEG53	SEG53	O	
38	SEG52	SEG52	O	
39	SEG51	SEG51	O	
40	SEG50	SEG50	O	
41	SEG49	SEG49	O	
42	SEG48	SEG48	O	
43	SEG47	SEG47	O	
44	SEG46	SEG46	O	
45	SEG45	SEG45	O	
46	SEG44	SEG44	O	
47	SEG43	SEG43	O	
48	SEG42	SEG42	O	
49	SEG41	SEG41	O	
50	SEG40	SEG40	O	
51	SEG39	SEG39	O	
52	SEG38	SEG38	O	
53	SEG37	SEG37	O	
54	SEG36	SEG36	O	
55	SEG35	SEG35	O	
56	SEG34	SEG34	O	

FRONT CPU (XA1400)

No.	Terminal	Signal	I/O	Description
57	SEG33	SEG33	O	LCD segment signal
58	SEG32	SEG32	O	
59	SEG31	SEG31	O	
60	SEG30	SEG30	O	
61	SEG29	SEG29	O	
62	SEG28	SEG28	O	
63	SEG27	SEG27	O	
64	SEG26	SEG26	O	
65	SEG25	SEG25	O	
66	SEG24	SEG24	O	
67	SEG23	SEG23	O	
68	SEG22	SEG22	O	
69	SEG21	SEG21	O	
70	SEG20	SEG20	O	
71	SEG19	SEG19	O	
72	SEG18	SEG18	O	
73	SEG17	SEG17	O	
74	SEG16	SEG16	O	
75	SEG15	SEG15	O	
76	SEG14	SEG14	O	
77	SEG13	SEG13	O	
78	SEG12	SEG12	O	
79	SEG11	SEG11	O	
80	SEG10	SEG10	O	
81	SEG9	SEG9	O	
82	SEG8	SEG8	O	
83	SEG7	SEG7	O	
84	SEG6	SEG6	O	
85	SEG5	SEG5	O	
86	SEG4	SEG4	O	
87	SEG3	SEG3	O	
88	SEG2	SEG2	O	
89	SEG1	SEG1	O	
90	SEG0	SEG0	O	
91	VL1	VL1	-	LCD power supply
92	VL2	VL2	-	
93	VL3	VL3	-	
94	P12	RXLED	O	RX Lamp
95	P12	TXLED	O	TX Lamp
96	VL4	VL4	-	LCD power supply
97	AN19	VOL	I	Volume input
98	AN18	SQL	I	SQL Volume input
99	AN17	SHIFT	I	SHIFT Volume input
100	AN16	RIT	I	RIT Volume input

MAIN CPU (XA1442)

No.	Terminal	Signal	I/O	Description
1	P13/AN3	TEMP	I	Temperature detection of transmission AMP
2	P13/RXD0	RXD	I	UART data reception input
3	P13/TXD0	TXD	O	UART data transmission output
4	P13/DA0	SQV	O	Output of voltage for squelch
5	WKUP0	GND	-	GND
6	VREF	5V	-	5V
7	MODE	5V	-	5V
8	XCIN		-	-
9	XCOUT		-	-
10	RESET	RESET	I	Reset input
11	XOUT	XOUT	O	Main clock output
12	VSS	GND	-	CPU GND
13	XIN	XIN	I	Main clock input
14	VCC	5V	-	CPU power terminal
15	P11	BU	I	Backup signal detection input
16	TRBO	BEEP	O	Beep tone output
17	INT5	ULK	I	PLL unlock signal input
18	P11	5VC	O	5V power ON/OFF output
19	P11		O	-
20	SDA	EDAT	I/O	Serial data for EEPROM
21	SCL2	CLK	O	Serial clock output for PLL
22	SCL	ECLK	O	Serial clock output for EEPROM
23	P10	DAT	O	Serial data output for PLL
24	TRDIOC1	STON	O	Side Tone Output
25	P10	STB	O	Strobe signal output for PLL
26	P10		-	-
27	P10		-	-
28	P10		-	-
29	P10	PSW	I	Power switch input
30	P10	PON	O	Unit power ON/OFF
31	P7	USB	O	USB mode setting
32	P7	LSB	O	LSB mode setting
33	P7	CWU	O	CWU mode setting
34	P7	CWL	O	CWL mode setting
35	P7	AM	O	AM mode setting
36	P7	FM	O	FM mode setting
37	P7	TUN	O	Output of Voltage for antenna tuner
38	P7	NRW	O	Narrow mode setting
39	P6	NBS	O	Noise Brounker setting
40	P6	AGCS	O	AGC setting
41	P6	LOW	O	Tx power LOW
42	P6	SLOW	O	Tx power SLOW
43	P6	MUTE	O	Microphone mute
44	TRDIOCO		-	-
45	TRDIOBO	TONE	O	CTCSS tone output
46	TRDIOAO		-	-
47	P5	ATT	O	Attenuator ON/OFF
48	P5	BK1	O	Break-in
49	P5	BK2	O	
50	P5	BK3	O	
51	P4	AUTO	O	
52	P4	PTT	O	PTT Output
53	P4	PTTL	O	PTT Lock
54	P4	50W	O	Tx Power 50W
55	P4	VDAT	O	EVR control data output
56	CLK1	VCLK	O	Clock output for EVR

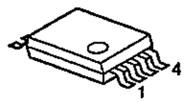
MAIN CPU (XA1442)

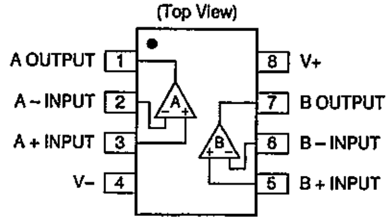
No.	Terminal	Signal	I/O	Description
57	RXD1	CRX	I	Clone data reception input
58	TXD1	CTX	O	Clone data transmission output
59	P3	BPF0	O	1.6MHz BAND
60	P3	BPF1	O	1.9MHz BAND
61	P3	BPF2	O	3.5MHz BAND
62	P3	BPF3	O	7MHz BAND
63	P3	BPF4	O	10MHz BAND
64	P3	BPF5	O	14MHz BAND, 18MHz BAND
65	P3	BPF6	O	21MHz BAND, 24MHz BAND
66	P3	BPF7	O	28MHz BAND, 29MHz BAND
67	P2	PRE	O	PRE AMP ON/OFF
68	P2	DOT	I	CW DOT input
69	P2	DASH	I	CW DASH input
70	P2	CWK	O	Transmission control in CW mode
71	P2	TXS	I	Detection of transmission
72	P2	SQS	I	squelch Open/Close
73	P2	50I	I	Tx Power 50W setting
74	P2	FAN	O	Fan Motor control
75	P1	TKEY	I	Detection of Antenna tuner operation
76	P1	COMP	O	
77	P1		-	-
78	P1		-	-
79	AN15	SRF	I	S-meter input/RF meter input
80	P1		-	-
81	P1		-	-
82	P1		-	-
83	P0	JP1	I	Band plan 1
84	P0	JP2	I	Band plan 2
85	P0	JP3	I	Band plan 3
86	P0	JP4	I	Band plan 4
87	P0	JP5	I	Band plan 5
88	P0	JP6	I	Band plan 6
89	P0	JP7	I	Band plan 7
90	P0	JP8	I	Band plan 8
91	VL1		-	-
92	VL2		-	-
93	VL3		-	-
94	P12		-	-
95	P12		-	-
96	VL4		-	-
97	P13	SCLK	O	Serial clock output for DDS
98	P13	SDAT	O	Serial data output for DDS
99	P13	FSY1	O	1st LO data for DDS
100	P13	FSYB	O	BFO data for DDS

SEMICONDUCTOR DATA

1) NJM4558M (XA0097)

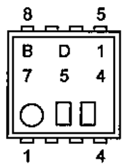
Operation Amplifiers



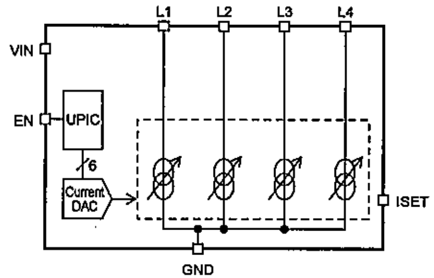


2) BD1754HFN (XA1403)

LED Driver Series

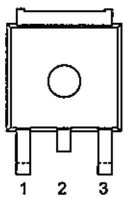


PIN	Pin Name
1	EN
2	GND
3	ISET
4	VIN
5	L1
6	L2
7	L3
8	L4



3) NJM78M05DL1A (XA1118)

5V Voltage Regulator

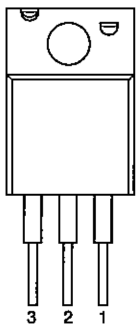


1.INPUT
2.GND
3.OUTPUT

4) NJM7808FA (XA1106)

8V Voltage Regulator

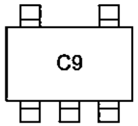
Pin Assignment

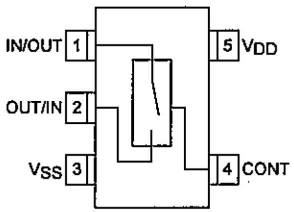


1. OUTPUT
2. COMMON
3. INPUT

5) TC4S66F (XA0115)

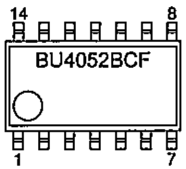
Bilateral Switch

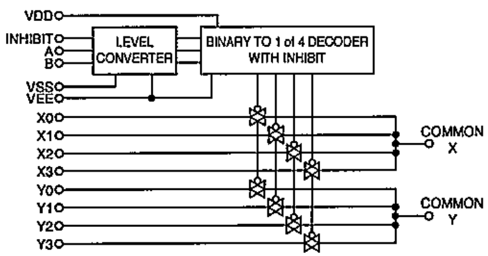


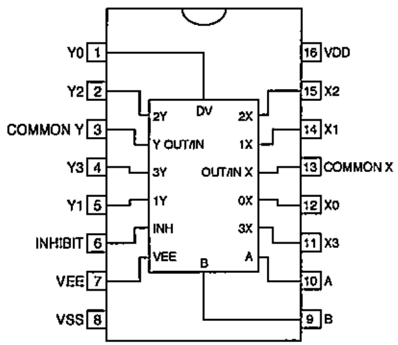


6) BU4052BCF (XA0236)

Analog Switch

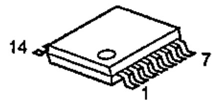


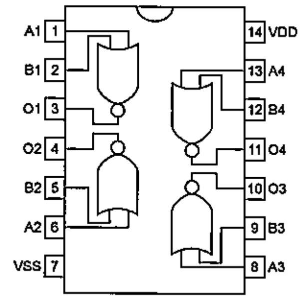




7) BU4001BF (XA0299)

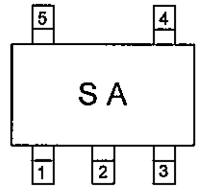
Quad 2-input NOR GATE

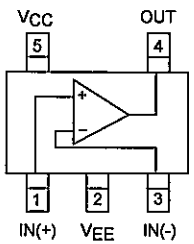




8) TA75S01F (XA0332)

Single Operational Amplifiers

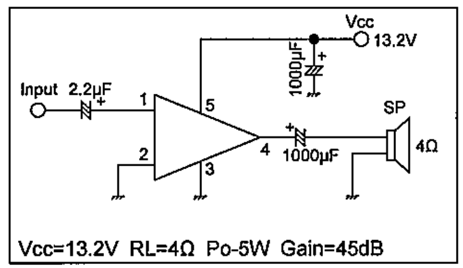


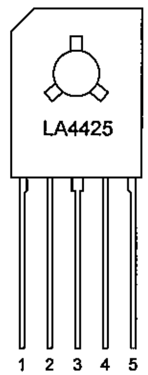


9) LA4425A (XA0410)

5W Audio Power Amplifiers

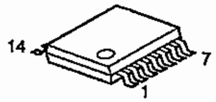
Test Circuit

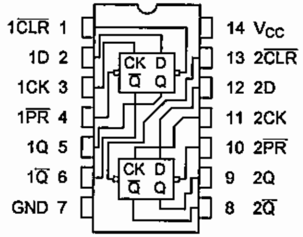




10) TC74HC74AF (XA0459)

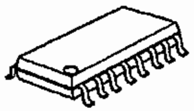
Dual D-type Flip Flop

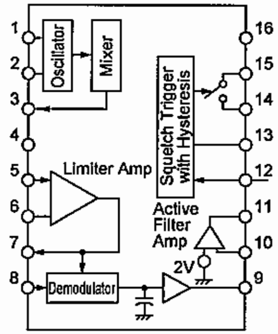




11) NJM3357M (XA0742)

Low Powe FM IC

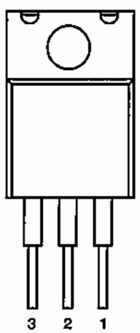




12) NJM7805FA (XA0812)

5V Voltage Regulator

Pin Assignment



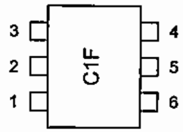
1. OUTPUT

2. COMMON

3. INPUT

13) UPC2710TB (XA0968)

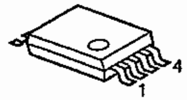
Wide Band Amp

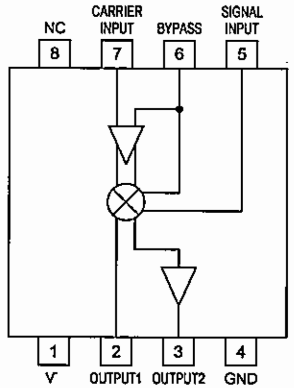


PIN	Pin Name
1	INPUT
2	GND
3	GND
4	OUTPUT
5	GND
6	V_{CC}

14) NJM2594V (XA0995)

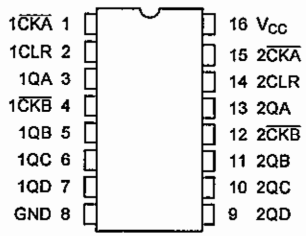
Balanced Mixer

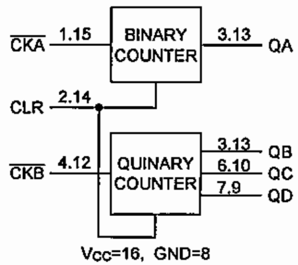




15) TC74HC390AF (XA1001)

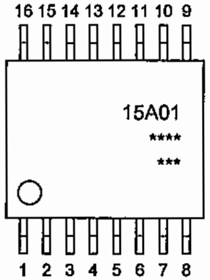
CMOS Dual Decade Counter



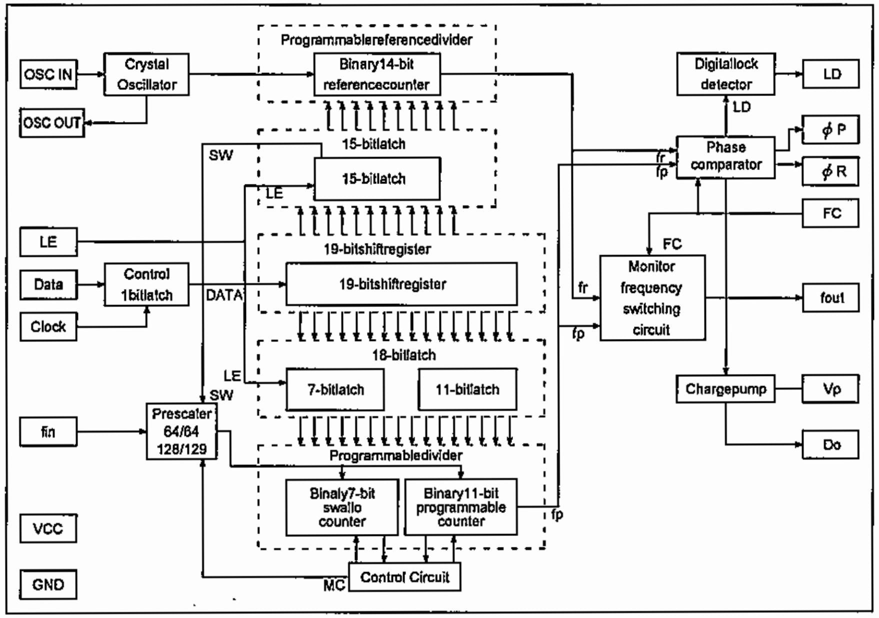


16) MB15A01PFV1 (XA1010)

PLL Synthesizer

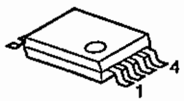


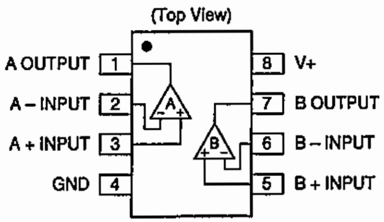
1. OSC IN
2. OSC OUT
3. Vp
4. Vcc
5. Do
6. GND
7. LD
8. fin
9. Clock
10. Data
11. LE
12. FC
13. N. C.
14. fout
15. ϕ P
16. ϕ R



17) LM2904PWR (XA1103)

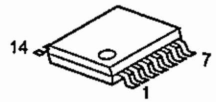
Dual Operational Amplifiers

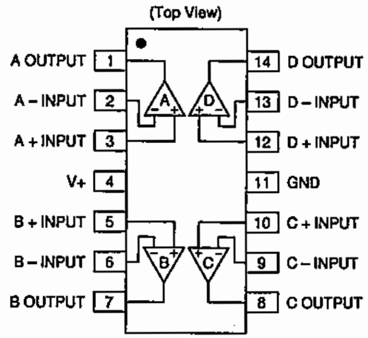




18) LM2902PWR (XA1106)

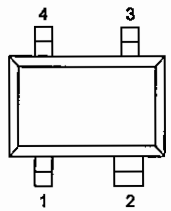
Quad Operational Amplifiers





19) S80845CLNB (XA1120)

C-MOS Voltage Detector

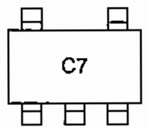


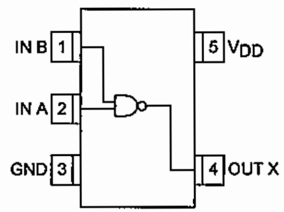
Pin No.	Pin name	Pin description
1	OUT	Voltage detection output pin
2	VDD	Voltage input pin
3	NC*1	No connection
4	VSS	GND pin

*1. The NC pin is electrically open.
The NC pin can be connected to VDD or VSS.

20) TC4SU11F (XA1396)

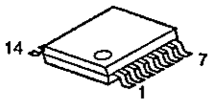
2 Input NAND GATE



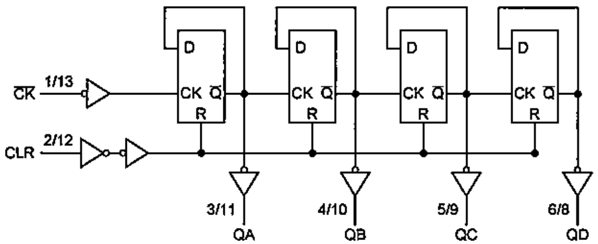


21) TC74VHC393FT (XA1397)

Dual Binary Counter

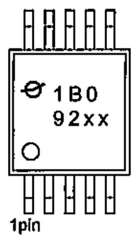


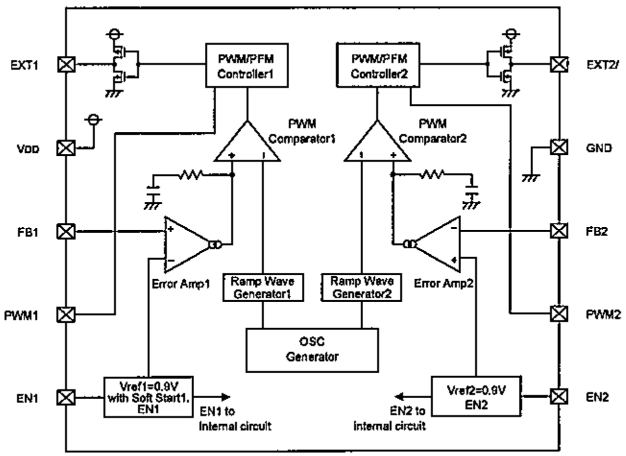
1	1CK	8	2QD
2	1CLR	9	2QC
3	1QA	10	2QB
4	1QB	11	2QA
5	1QC	12	2CLR
6	1QD	13	2CK
7	GND	14	VCC



22) XC9504B092AR (XA1398)

2ch. Step-up/Inverting DC/DC Converter

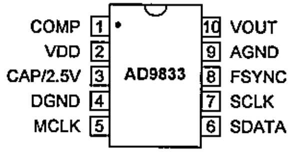


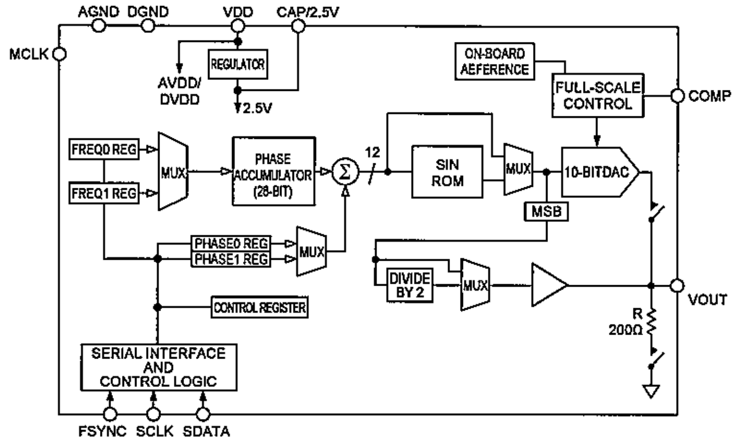


PIN No.	Pin Name	FUNCTION
1	EXT1	External Transistor Connection 1
2	VDD	Supply Voltage
3	FB1	Output Voltage Monitor Feedback Pin 1
4	PWM1	PWM / PFM Switching Pin 1
5	EN1	Enable 1
6	EN2	Enable 2
7	PWM2	PWM / PFM Switching Pin 2
8	FB2	Output Voltage Monitor Feedback Pin 2
9	GND	Ground
10	EXT2	External Transistor Connection 2

23) AD9833BRMZ (XA1399)

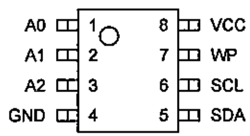
Programmable Waveform Generator





24) R1EX24256ASAS0A#S0 (XA1401)

256K bits CMOS Serial EEPROM

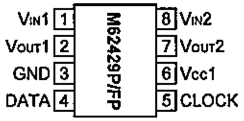


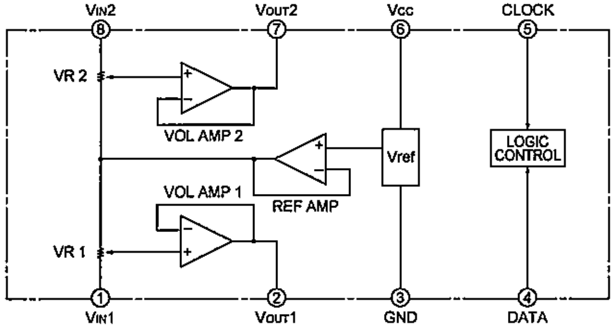
Pin Number	Pin Name	Function
1	A0	Slave address input
2	A1	Slave address input
3	A2	Slave address input
4	GND	Groudd
5	SDA	Serial data input / output
6	SCL	Serial clock input
7	WP	Write protection input Connected to Vcc: Protection valid Connected to GND: Protection invalid
8	VCC	Power supply

Remark See Dimensions for details of the package drawings.

25) M61545AFP#DF0R (XA1402)

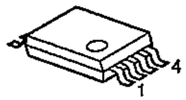
Electronic Volume

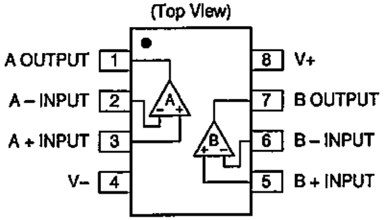




26) NJM2068V (XA1404)

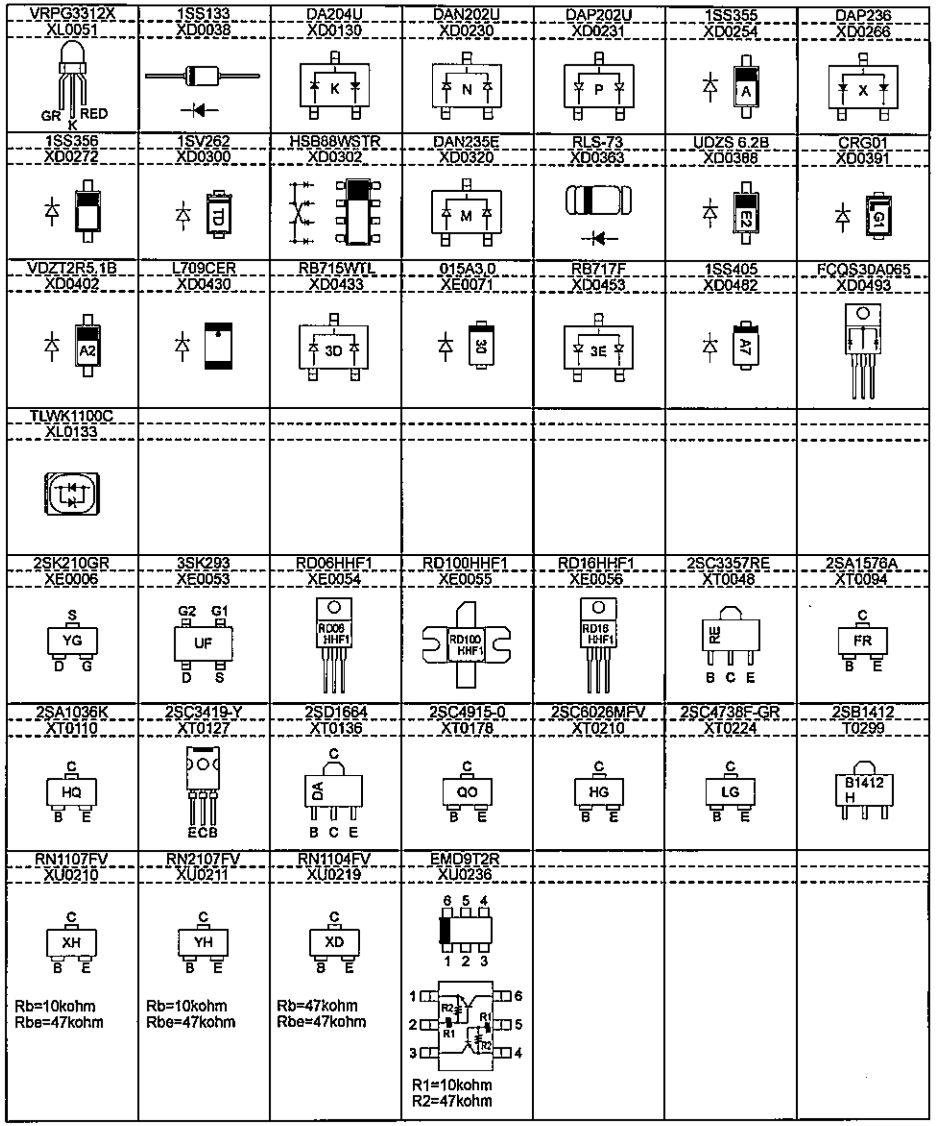
Dual Operational Amplifiers



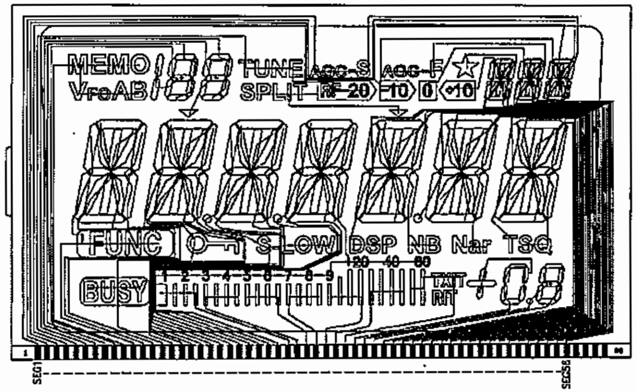


27) Transistor, Diode and LED outline Drawings

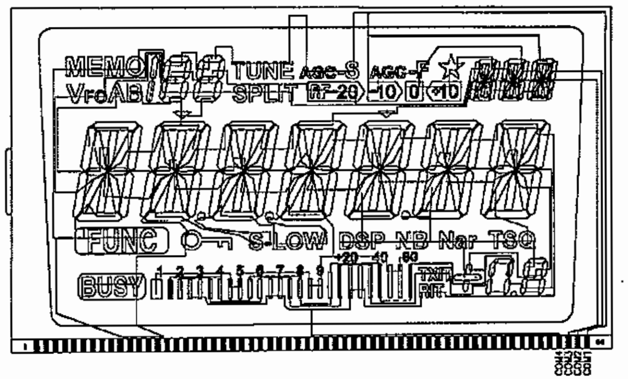
Top View



28) LCD Connection (EL0064)



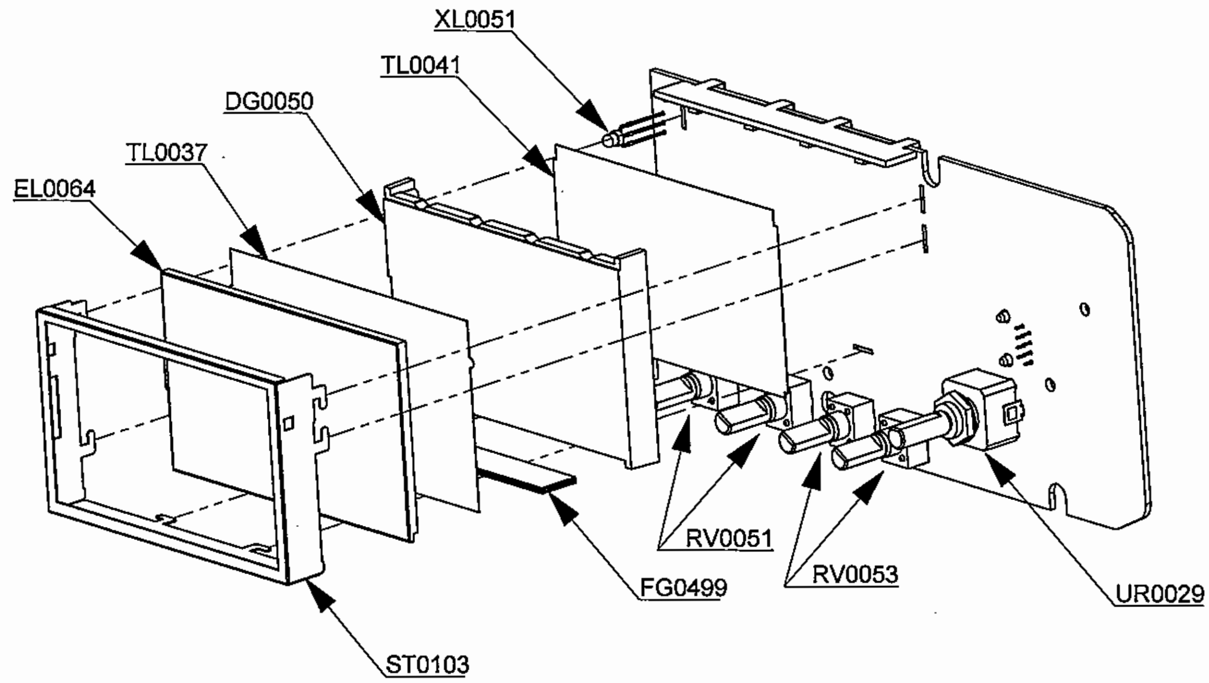
SEGMENT



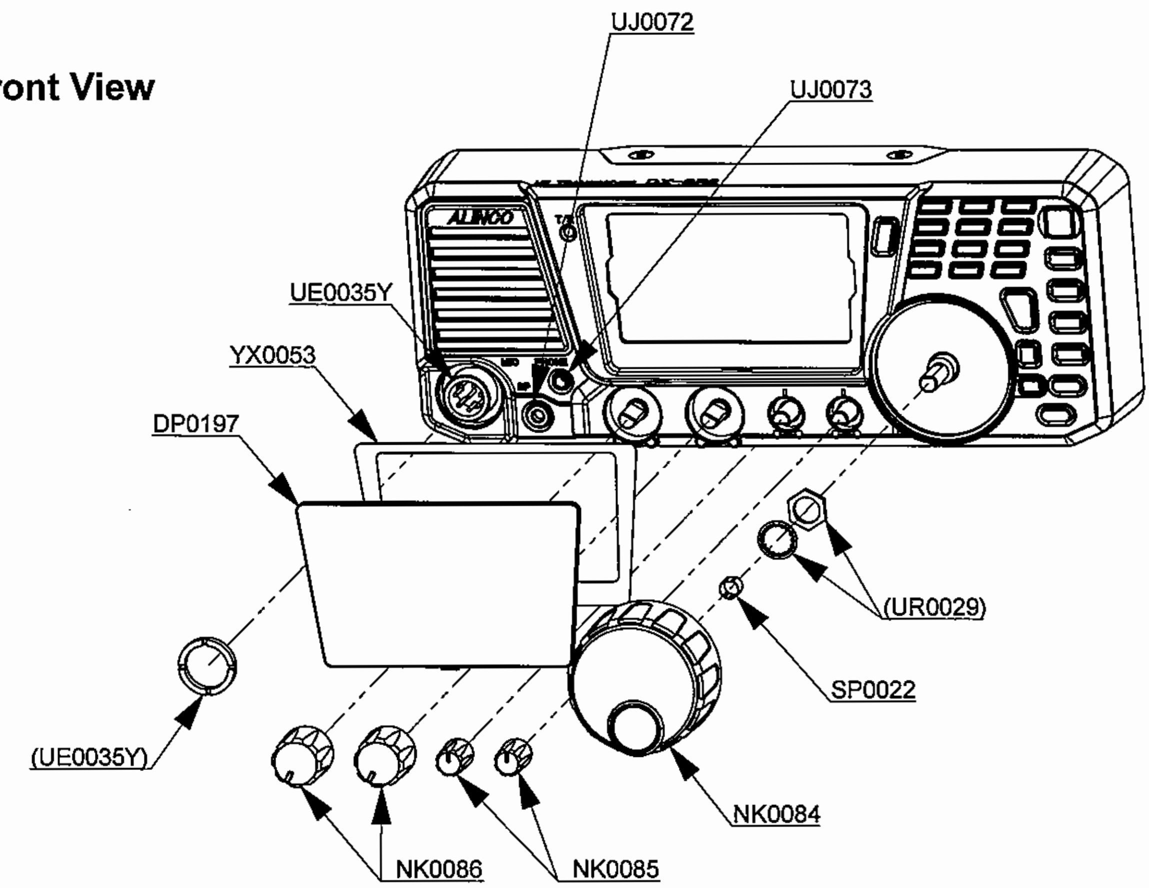
COMMON

EXPLODED VIEW

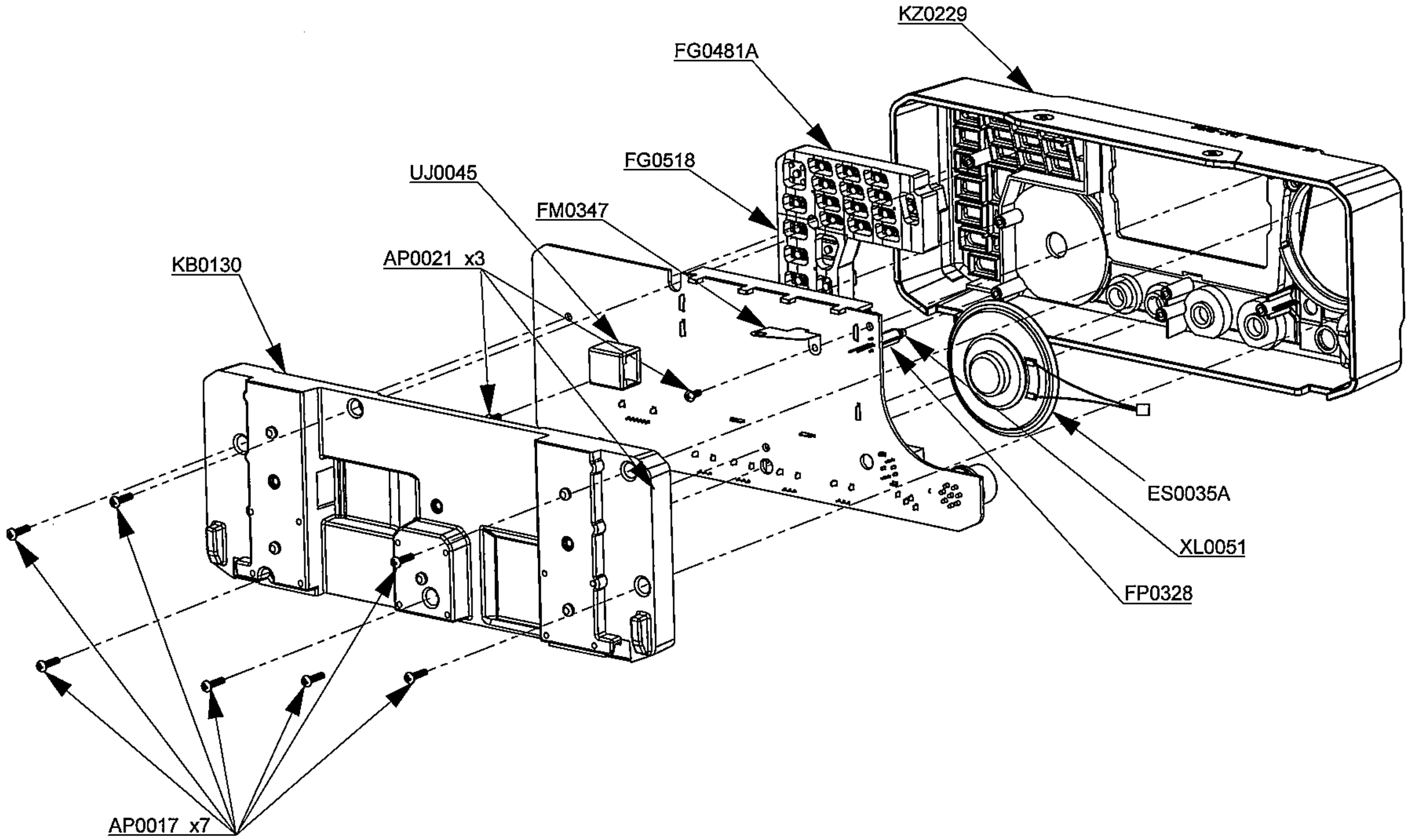
1) Front View
a.LCD



b.Front View

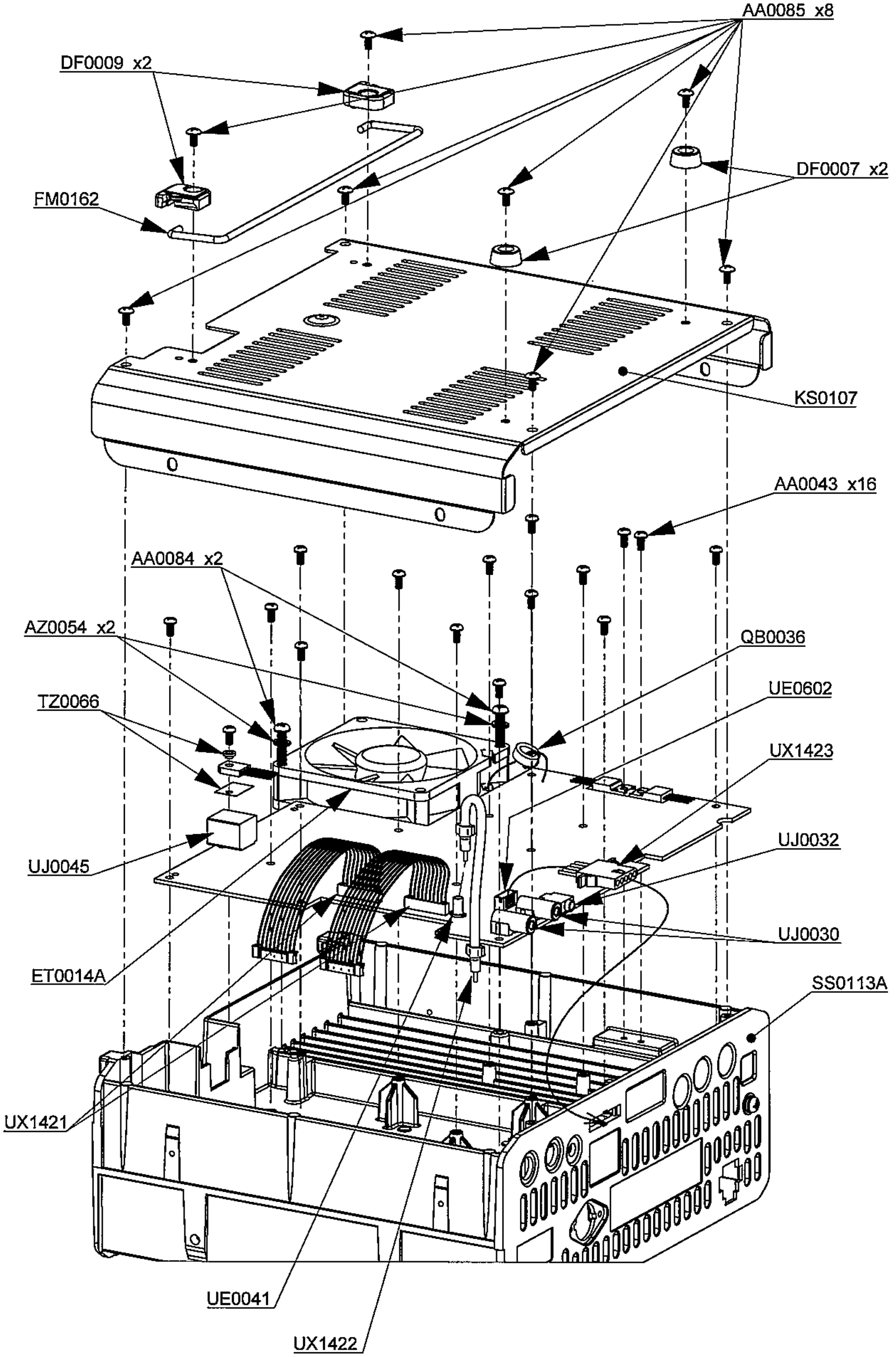


c.Rear View

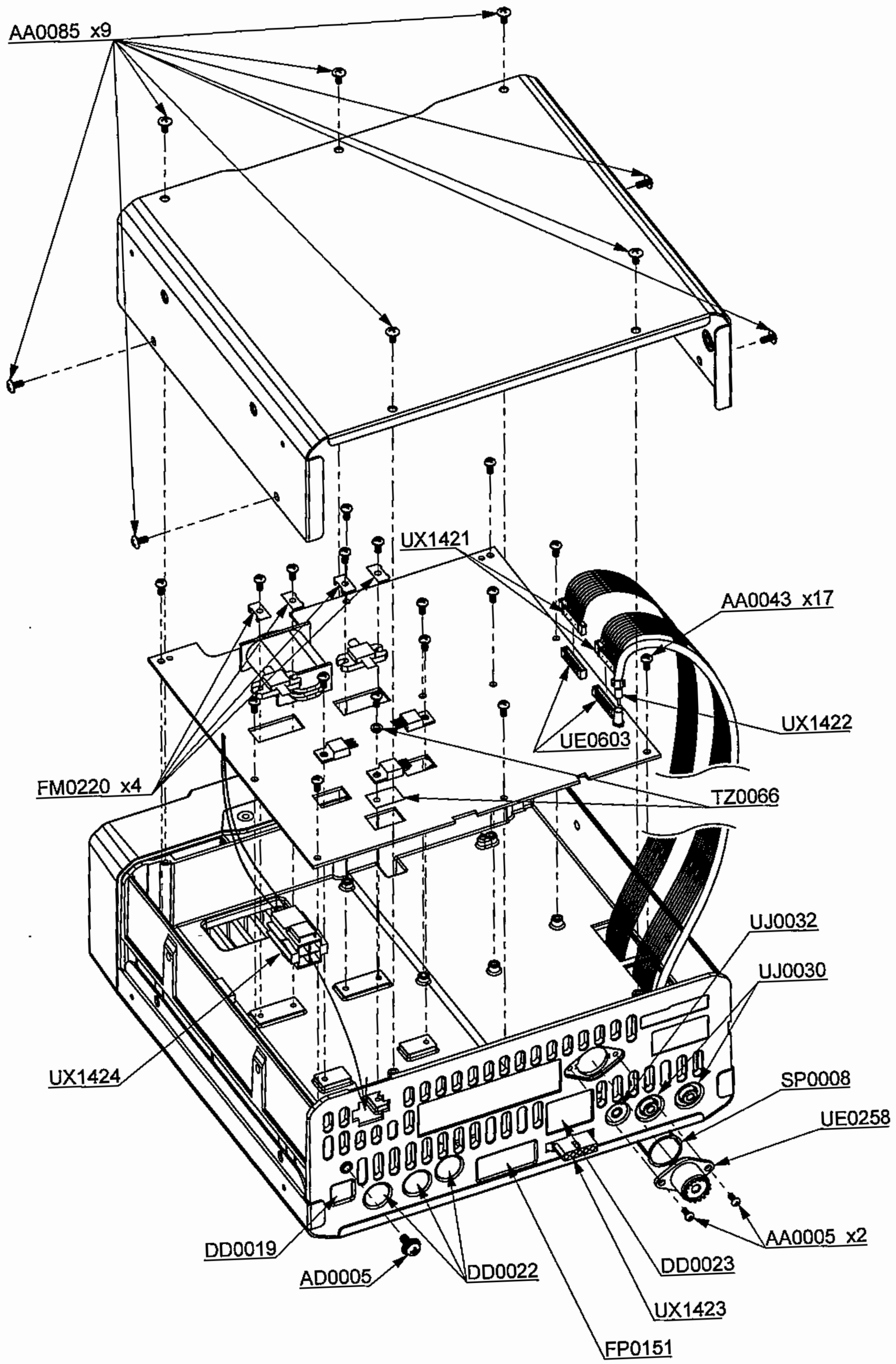


KZ0229
FG0481A
FG0518
UJ0045
FM0347
KB0130
AP0021 x3
ES0035A
XL0051
FP0328
AP0017 x7

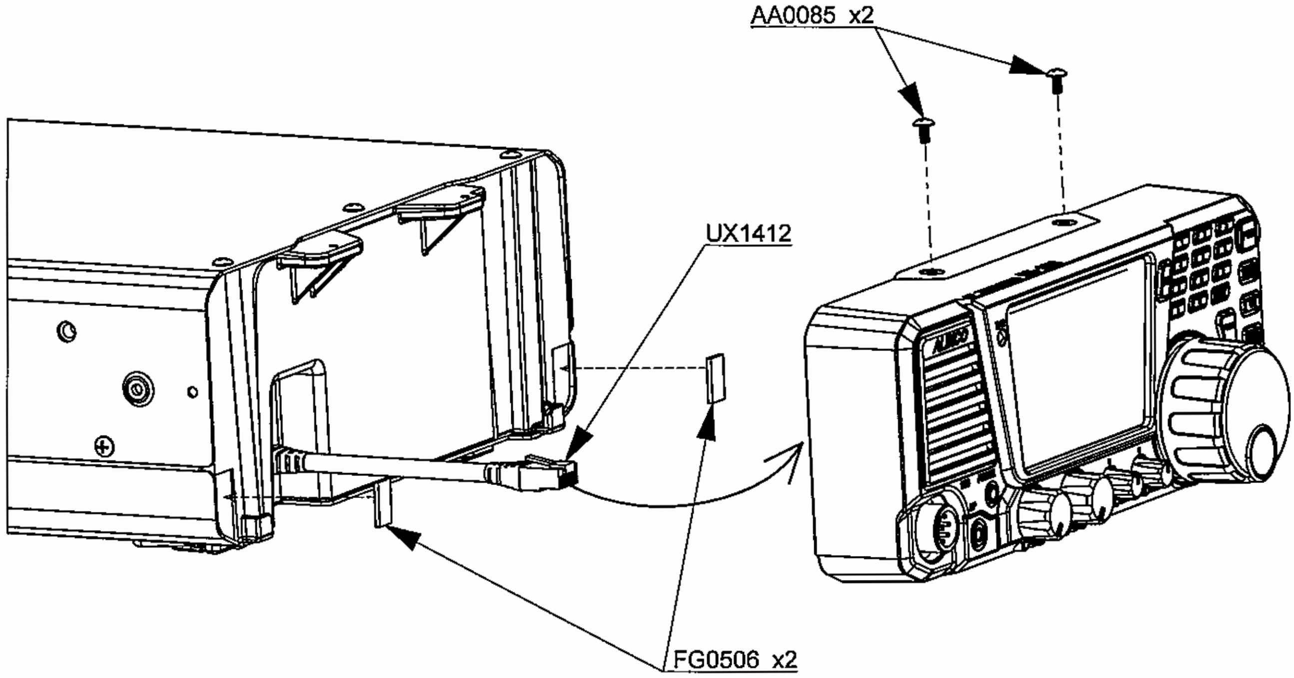
2) MAIN SIDE
a.Top View



b.Bottom View



c.Front View



PARTS LIST

FRONT Unit

Ref. No.	Parts No.	Description	Parts Name	Version
C1	CU3535	Chip C	GRM36B102K50PT	
C2	CS0424	Chip Tantalum	TMCMA1C106MTR	
C3	CU3535	Chip C	GRM36B102K50PT	
C4	CS0424	Chip Tantalum	TMCMA1C106MTR	
C5	CU3523	Chip C	GRM1552C1H101JZ01D	
C6	CU3559	Chip C	GRM155B30J105KE18D	
C7	CU3551	Chip C	GRM36B223K16PT	
C8	CU3559	Chip C	GRM155B30J105KE18D	
C9	CU3547	Chip C	GRM36B103K16PT	
C10	CU3535	Chip C	GRM36B102K50PT	
C11	CU3547	Chip C	GRM36B103K16PT	
C12	CU3554	Chip C	GRM36B104K10PT	
C13	CU3547	Chip C	GRM36B103K16PT	
C14	CU3535	Chip C	GRM36B102K50PT	
C15	CU0118	Chip C	GRM21BB31C475KA87L	
C16	CU3547	Chip C	GRM36B103K16PT	
C17	CU3523	Chip C	GRM1552C1H101JZ01D	
C18	CU3523	Chip C	GRM1552C1H101JZ01D	
C19	CU0118	Chip C	GRM21BB31C475KA87L	
C20	CU3547	Chip C	GRM36B103K16PT	
C21	CU3547	Chip C	GRM36B103K16PT	
C22	CU3547	Chip C	GRM36B103K16PT	
C23	CU3547	Chip C	GRM36B103K16PT	
C24	CU3547	Chip C	GRM36B103K16PT	
C25	CU3551	Chip C	GRM36B223K16PT	
C26	CU3547	Chip C	GRM36B103K16PT	
C27	CU3547	Chip C	GRM36B103K16PT	
C30	CU3547	Chip C	GRM36B103K16PT	
C31	CS0470	Chip Tantalum	TMCMC1C107MTRF	
C32	CS0424	Chip Tantalum	TMCMA1C106MTR	
C33	CU3547	Chip C	GRM36B103K16PT	
C34	CU3535	Chip C	GRM36B102K50PT	
C35	CU3535	Chip C	GRM36B102K50PT	
C36	CU3535	Chip C	GRM36B102K50PT	
C37	CU3535	Chip C	GRM36B102K50PT	
C38	CU3535	Chip C	GRM36B102K50PT	
C39	CU3547	Chip C	GRM36B103K16PT	
CN1	UE0035Y	Connector	MIC FM214-8SMPY(Y)	
CN2	NC			
CN3	UJ0045	Connector	HJC0282-010022	
CN4	UE0043	Connector	PI22A02M	
D1	XL0051	LED	VRPG3312X	
D2	XD0254	Diode	1SS355	
D7	XD0254	Diode	1SS355	
D8	XD0230	Diode	DAN202U	
D9	XD0230	Diode	DAN202U	
D10	XD0230	Diode	DAN202U	
D11	XD0230	Diode	DAN202U	
D12	XD0230	Diode	DAN202U	
D13	XD0230	Diode	DAN202U	
D14	XD0230	Diode	DAN202U	
D15	XD0230	Diode	DAN202U	
D16	XD0230	Diode	DAN202U	
D17	XD0230	Diode	DAN202U	
D18	XD0230	Diode	DAN202U	
D19	XD0230	Diode	DAN202U	
D20	XD0482	Diode	1SS405(TPH3,F)	
D21	XD0402	Diode	VDZT2R 5.1B	
D22	XD0402	Diode	VDZT2R 5.1B	
IC1	XA1400	CPU	R5F2L3ACANFP#U1	
IC2	XA0097	IC	IC NJM4558M	
IC3	XA1403	IC	BD1754HFN-TR	
IC4	XA0947	IC	NJM78M05DL1A-TE1	
JK1	UJ0073	Jack	HSJ2630-010070	
JK2	UJ0072	Jack	HSJ1406-01-030	
L1	QC0086	Chip Inductor	3225 100 UH	
L2	QC0086	Chip Inductor	3225 100 UH	
LCD1	EL0064	LCD	LCD DXSR8	
Q1	XU0236	Transistor	EMD9T2R	
Q2	XU0236	Transistor	EMD9T2R	
Q3	XT0210	Transistor	2SC6026MFV-GR	
R1	RK3032	Chip R	1608 1/10W 330 OHM J	
R2	RK3032	Chip R	1608 1/10W 330 OHM J	
R3	RK3550	Chip R	1005 1/16W 10K OHM J	
R4	RK3522	Chip R	1005 1/16W 47 OHM J	
R5	RK3551	Chip R	1005 1/16W 12K OHM J	
R6	RK3566	Chip R	1005 1/16W 220K OHMJ	
R7	RK3557	Chip R	1005 1/16W 39K OHM J	
R8	RK3550	Chip R	1005 1/16W 10K OHM J	
R9	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R10	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R11	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R12	RK3543	Chip R	1005 1/16W 2.7K OHMJ	
R13	RK3550	Chip R	1005 1/16W 10K OHM J	
R14	RK3550	Chip R	1005 1/16W 10K OHM J	
R15	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R16	RK3550	Chip R	1005 1/16W 10K OHM J	
R17	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R18	RK3550	Chip R	1005 1/16W 10K OHM J	
R19	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R20	RK3550	Chip R	1005 1/16W 10K OHM J	
R21	RK3550	Chip R	1005 1/16W 10K OHM J	
R22	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R23	RK3550	Chip R	1005 1/16W 10K OHM J	
R24	RK3550	Chip R	1005 1/16W 10K OHM J	
R25	RK3550	Chip R	1005 1/16W 10K OHM J	
R26	RK3548	Chip R	1005 1/16W 6.8K OHMJ	
R27	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R28	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R33	RK3550	Chip R	1005 1/16W 10K OHM J	
R34	RK3550	Chip R	1005 1/16W 10K OHM J	
R35	RK3550	Chip R	1005 1/16W 10K OHM J	
R36	RK3550	Chip R	1005 1/16W 10K OHM J	
R37	RK3550	Chip R	1005 1/16W 10K OHM J	
R38	RK3550	Chip R	1005 1/16W 10K OHM J	
R39	RK3550	Chip R	1005 1/16W 10K OHM J	
R40	RK3570	Chip R	1005 1/16W 470K OHMJ	
R42	RK3550	Chip R	1005 1/16W 10K OHM J	
R43	RK3550	Chip R	1005 1/16W 10K OHM J	
R45	RK3550	Chip R	1005 1/16W 10K OHM J	
R46	RK3550	Chip R	1005 1/16W 10K OHM J	
R47	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R48	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R49	RK3530	Chip R	1005 1/16W 220 OHM J	
R50	RK3530	Chip R	1005 1/16W 220 OHM J	
R51	RK3530	Chip R	1005 1/16W 220 OHM J	
R52	RK3530	Chip R	1005 1/16W 220 OHM J	
R53	RK3564	Chip R	1005 1/16W 150K OHMJ	
R54	RK3038	Chip R	1608 1/10W 1.0KOHM J	
R55	RK3038	Chip R	1608 1/10W 1.0KOHM J	
R56	RK3550	Chip R	1005 1/16W 10K OHM J	
RE1	UR0029	ENCODER	RES16B50-201-C	
VR1	RV0051	Trimmer R	RK09D1130C2P(10KB)	
VR2	RV0051	Trimmer R	RK09D1130C2P(10KB)	
VR3	RV0053	Trimmer R	RK09D1130C3C(10KB)	
VR4	RV0053	Trimmer R	RK09D1130C3C(10KB)	
X1	XB0032	CERAMIC	CSTCE8M00G52-R0	
	FM0034		MIC GND PLATE	
	UP0653	PCB	DXSR8 FRONT INTEG	
	DG0050		LCD LIGHT DXSR8	
	FP0328		LED SPACER	
	FP0034		MIC SPACER DR110	
	FG0499		LCD RUBBER	
	TL0041		REFLET SHEET	
	TL0037		DIFFUSSION SHEET	
	ST0103		LCD HOLDER DXSR8	

LCD Unit

Ref. No.	Parts No.	Description	Parts Name	Version
D3	XL0133	Chip LED	TLWK1100C(T11)	
D4	XL0133	Chip LED	TLWK1100C(T11)	
D5	XL0133	Chip LED	TLWK1100C(T11)	
D6	XL0133	Chip LED	TLWK1100C(T11)	
R29	RK3031	Chip R	1608 1/10W 270 OHM J	
R30	RK3031	Chip R	1608 1/10W 270 OHM J	
R31	RK3031	Chip R	1608 1/10W 270 OHM J	
R32	RK3031	Chip R	1608 1/10W 270 OHM J	

PA Unit

Ref. No.	Parts No.	Description	Parts Name	Version
C801	CU0101	Chip C	2012 B 50V 0.1UF	
C802	CU0095	Chip C	2012 B 50V 0.022UF	
C803	CU0095	Chip C	2012 B 50V 0.022UF	
C804	CU0101	Chip C	2012 B 50V 0.1UF	
C805	CU0095	Chip C	2012 B 50V 0.022UF	
C806	CU3111	Chip C	1608 B 25V 0.1UF	
C807	CU0095	Chip C	2012 B 50V 0.022UF	
C808	NC			
C809	CU0101	Chip C	2012 B 50V 0.1UF	
C810	NC			
C811	NC			
C812	CU4017	Chip C	GRM42-6CH330J500PT	
C813	CU0095	Chip C	2012 B 50V 0.022UF	
C814	CU4051	Chip C	GRM31A7U2J471JW31D	
C815	NC			
C818	NC			
C819	NC			
C820	CU3011	Chip C	1608 CH 50V 10PF C	
C821	CU3006	Chip C	1608 CH 50V 5PF C	
C822	CU0101	Chip C	2012 B 50V 0.1UF	
C823	CU0095	Chip C	2012 B 50V 0.022UF	
C824	CU0095	Chip C	2012 B 50V 0.022UF	
C825	CU3111	Chip C	1608 B 25V 0.1UF	
C826	CU0101	Chip C	2012 B 50V 0.1UF	
C827	CU3035	Chip C	1608 B 50V 0.001UF	
C828	CU0095	Chip C	2012 B 50V 0.022UF	
C829	CU3022	Chip C	1608 CH 50V 82PF J	
C830	CU3025	Chip C	1608 CH 50V 150PF J	
C831	CU3021	Chip C	1608 CH 50V 68PF J	
C832	CU3111	Chip C	1608 B 25V 0.1UF	
C833	CU0101	Chip C	2012 B 50V 0.1UF	
C834	CU3035	Chip C	1608 B 50V 0.001UF	
C835	CU3035	Chip C	1608 B 50V 0.001UF	
C836	CU3111	Chip C	1608 B 25V 0.1UF	
C837	CU3047	Chip C	1608 B 50V 0.010UF	
C838	CE0350	Electrolytic C	16V 100UF	
C839	CU0101	Chip C	2012 B 50V 0.1UF	
C840	CU3035	Chip C	1608 B 50V 0.001UF	
C841	CU0101	Chip C	2012 B 50V 0.1UF	
C842	CE0353	Electrolytic C	16V 470UF	
C843	CU0101	Chip C	2012 B 50V 0.1UF	
C844	CU3047	Chip C	1608 B 50V 0.010UF	
C845	CU3035	Chip C	1608 B 50V 0.001UF	
C846	CE0343	Electrolytic C	16V 1000UF	
C847	CU3047	Chip C	1608 B 50V 0.010UF	
C848	CU3047	Chip C	1608 B 50V 0.010UF	
C849	CU3047	Chip C	1608 B 50V 0.010UF	
C850	CU3035	Chip C	1608 B 50V 0.001UF	
C851	CU3047	Chip C	1608 B 50V 0.010UF	
C852	CU3047	Chip C	1608 B 50V 0.010UF	
C860	NC			
C861	CU4052	Chip C	GRM31A7U2J681JW31D	
C901	CU4051	Chip C	GRM31A7U2J471JW31D	
C902	CU4045	Chip C	GRM31A7U2J151JW31D	
C903	NC			
C904	CU3027	Chip C	1608 CH 50V 220PF J	
C905	CU3047	Chip C	1608 B 50V 0.010UF	
C906	CU3047	Chip C	1608 B 50V 0.010UF	
C907	CU4051	Chip C	GRM31A7U2J471JW31D	
C908	CU4053	Chip C	GRM31A7U2J102JW31D	
C909	CU4054	Chip C	GRM32A7U2J222JW31D	
C910	CU4051	Chip C	GRM31A7U2J471JW31D	
C911	CU4052	Chip C	GRM31A7U2J681JW31D	
C912	CU3029	Chip C	1608 B 50V 330PF K	
C913	CU3019	Chip C	1608 CH 50V 47PF J	
C914	CU3026	Chip C	1608 CH 50V 180PF J	
C915	CU3019	Chip C	1608 CH 50V 47PF J	
C916	CU4049	Chip C	GRM31A7U2J271JW31D	
C917	CU4022	Chip C	GRM42-6CH820J500PT	
C918	CU3111	Chip C	1608 B 25V 0.1UF	
C919	CU3031	Chip C	1608 B 50V 470PF K	
C920	CU3031	Chip C	1608 B 50V 470PF K	
C921	CU3047	Chip C	1608 B 50V 0.010UF	
C922	CU3111	Chip C	1608 B 25V 0.1UF	
C923	NC			
C924	NC			
C925	NC			
C926	CU3047	Chip C	1608 B 50V 0.010UF	
C927	CU4027	Chip C	GRM42-6X7R331K500PT	

Ref. No.	Parts No.	Description	Parts Name	Version
C928	CU4051	Chip C	GRM31A7U2J471JW31D	
C929	CU4050	Chip C	GRM31A7U2J391JW31D	
C930	CU4046	Chip C	GRM31A7U2J181JW31D	
C931	CU3111	Chip C	1608 B 25V 0.1UF	
C932	CU3111	Chip C	1608 B 25V 0.1UF	
C933	CU4021	Chip C	GRM42-6CH680J500PT	
C934	CU4023	Chip C	GRM42-6CH101J500PT	
C935	CU3547	Chip C	GRM36B103K16PT	
C936	CU3547	Chip C	GRM36B103K16PT	
C937	CU3047	Chip C	1608 B 50V 0.010UF	
C938	CU3547	Chip C	GRM36B103K16PT	
C939	CU3111	Chip C	1608 B 25V 0.1UF	
C940	CU3047	Chip C	1608 B 50V 0.010UF	
C941	CU4049	Chip C	GRM31A7U2J271JW31D	
C942	CU4052	Chip C	GRM31A7U2J681JW31D	
C943	CU4051	Chip C	GRM31A7U2J471JW31D	
C944	CU3547	Chip C	GRM36B103K16PT	
C945	CU4015	Chip C	GRM42-6CH220J500PT	
C946	CU4021	Chip C	GRM42-6CH680J500PT	
C947	CU3047	Chip C	1608 B 50V 0.010UF	
C948	CU3047	Chip C	1608 B 50V 0.010UF	
C949	CU4045	Chip C	GRM31A7U2J151JW31D	
C950	CU4027	Chip C	GRM42-6X7R331K500PT	
C951	CU4023	Chip C	GRM42-6CH101J500PT	
C952	CU3547	Chip C	GRM36B103K16PT	
C953	CU3547	Chip C	GRM36B103K16PT	
C954	CU4014	Chip C	GRM42-6CH180J500PT	
C955	CU4018	Chip C	GRM42-6CH390J500PT	
C956	CU3047	Chip C	1608 B 50V 0.010UF	
C957	CU3047	Chip C	1608 B 50V 0.010UF	
C958	CU4021	Chip C	GRM42-6CH680J500PT	
C959	CU4048	Chip C	GRM31A7U2J221JW31D	
C960	CU4022	Chip C	GRM42-6CH820J500PT	
C961	CU3547	Chip C	GRM36B103K16PT	
C962	CU4018	Chip C	GRM42-6CH390J500PT	
C963	CU4015	Chip C	GRM42-6CH220J500PT	
C964	CU3547	Chip C	GRM36B103K16PT	
C965	CU3047	Chip C	1608 B 50V 0.010UF	
C966	CU3047	Chip C	1608 B 50V 0.010UF	
C967	CU4013	Chip C	GRM42-6CH150J500PT	
C968	CU4024	Chip C	3216 CH 500V 120PF	
C969	NC			
C970	CU4016	Chip C	GRM42-6CH270J500PT	
CN801	UE0041	Connector	CONNECT.TMP-J01X-V6	
CN802	UX1424	Connector	WIRE POWER	
CN803	UE0041	Connector	CONNECT.TMP-J01X-V6	
CN901	RD0108	Resistor	1/6W TYPE 0 OHM	
CN902	UE0603	Connector	B10B-PH-K-S(LF)(SN)	
CN903	UE0603	Connector	B10B-PH-K-S(LF)(SN)	
CN904	UE0041	Connector	CONNECT.TMP-J01X-V6	
D801	XD0363	Diode	RLS-73TE-11	
D802	XD0363	Diode	RLS-73TE-11	
D803	XD0493	Diode	FCQS30A065	
D804	XD0038	Diode	1SS133	
D805	XD0038	Diode	1SS133	
D806	XD0391	Diode	CRG01(TE85L)	
D901	XD0391	Diode	CRG01(TE85L)	
D902	XD0453	Diode	RB717F	
D903	XD0430	Diode	L709CER	
D904	XD0430	Diode	L709CER	
D905	XD0430	Diode	L709CER	
D906	XD0430	Diode	L709CER	
D907	XD0391	Diode	CRG01(TE85L)	
D908	XD0391	Diode	CRG01(TE85L)	
D909	XD0391	Diode	CRG01(TE85L)	
D910	XD0391	Diode	CRG01(TE85L)	
D911	XD0391	Diode	CRG01(TE85L)	
D912	XD0391	Diode	CRG01(TE85L)	
D913	XD0391	Diode	CRG01(TE85L)	
F801	EF0011	FUSE	FGMB125V-5A PBF	
FB801	QB0008	Ferrite Bead	FB HF30ACB201209	
FB802	QB0070	Ferrite Bead	BL02RN2R1M2B	
FB803	QB0070	Ferrite Bead	BL02RN2R1M2B	
FB804	QB0070	Ferrite Bead	BL02RN2R1M2B	
FB901	QB0070	Ferrite Bead	BL02RN2R1M2B	
FH801	UH0014	Fuse Holder	PFC5000-0301	
FH802	UH0014	Fuse Holder	PFC5000-0301	
L801	QR0024	Transformer	RF TRANS QR0024	
L802	QR0014C	Transformer	RF TRANSF.QR0014C	

PA Unit

Ref. No.	Parts No.	Description	Parts Name	Version
L803	QR0025	Transformer	RF TRANS QR0025	
L804	QC0043	Chip Inductor	3225 2.2 UH	
L805	QC0129	Chip Inductor	3225 .39 UH	
L806	QC0129	Chip Inductor	3225 .39 UH	
L807	QR0012	Troidal Coil	TROIDAL COIL QR0012	
L808	QR0012	Troidal Coil	TROIDAL COIL QR0012	
L809	QR0012	Troidal Coil	TROIDAL COIL QR0012	
L901	QR0013A	Troidal Coil	TROIDAL COIL QR0013A	
L902	QR0021	Troidal Coil	TROIDAL COIL QR0021	
L903	QR0004	Troidal Coil	TROIDAL COIL QR4	
L904	QC0126	Chip Inductor	3225 .22 UH	
L905	QC0126	Chip Inductor	3225 .22 UH	
L906	QC0087	Chip Inductor	3225 120 UH	
L907	QR0006	Troidal Coil	TROIDAL COIL QR0006	
L908	QR0007	Troidal Coil	TROIDAL COIL QR0007	
L909	QC0087	Chip Inductor	3225 120 UH	
L910	QR0009A	Troidal Coil	TROIDAL COIL QR0009A	
L911	QR0008	Troidal Coil	TROIDAL COIL QR0008	
L912	QC0087	Chip Inductor	3225 120 UH	
L914	QR0011	Troidal Coil	TROIDAL COIL QR0011	
L915	QR0010	Troidal Coil	TROIDAL COIL QR0010	
L916	QC0048	Chip Inductor	3225 10 UH	
L917	QKA75H	Air Core Coil	MR10.0 7.5T 1.0	
L918	QKA65H	Air Core Coil	MR10.0 6.5T 1.0	
L919	QC0048	Air Core Coil	3225 10 UH	
L920	QKA45H	Air Core Coil	MR10.0 4.5T 1.0	
L921	QKA55H	Air Core Coil	MR10.0 5.5T 1.0	
L922	QC0048	Chip Inductor	3225 10 UH	
L923	RD1013	Resistor	1/4 W TYPE 0 OHM	
Q801	XE0056	FET	RD16HHF1-01	
Q802	XE0055	FET	RD100HHF1-01	
Q803	XE0054	FET	RD06HHF1-01	
Q804	XE0055	FET	RD100HHF1-01	
Q805	XE0056	FET	RD16HHF1-01	
Q806	XU0210	Transistor	RN1107FV	
Q901	XU0210	Transistor	RN1107FV	
Q902	XU0210	Transistor	RN1107FV	
Q903	XU0236	Transistor	EMD9T2R	
Q904	XU0236	Transistor	EMD9T2R	
Q905	XU0236	Transistor	EMD9T2R	
Q906	XU0236	Transistor	EMD9T2R	
Q907	XU0236	Transistor	EMD9T2R	
Q908	XU0236	Transistor	EMD9T2R	
R801	RK3038	Chip R	1608 1/10W 1.0KOHM J	
R802	RK3038	Chip R	1608 1/10W 1.0KOHM J	
R803	RK4028	Chip R	4532 1/2W 150 OHM J	
R804	RE0046	Resistor	MOS3CT521A180J	
R805	RK4095	Chip R	RK73B2ETTD102J	
R806	RK0001	Chip R	2125 1/8W 10 OHM J	
R807	RK3044	Chip R	1608 1/10W 3.3KOHM J	
R808	RK0052	Chip R	2125 1/8W 10K OHM J	
R809	RK0056	Chip R	2125 1/8W 22K OHM J	
R810	RK3015	Chip R	1608 1/10W 12 OHM J	
R811	RK4095	Chip R	RK73B2ETTD102J	
R812	NC			
R813	NC			
R814	RK0052	Chip R	2125 1/8W 10K OHM J	
R815	RK0056	Chip R	2125 1/8W 22K OHM J	
R816	RK0001	Chip R	2125 1/8W 10 OHM J	
R817	RK3033	Chip R	1608 1/10W 390 OHM J	
R818	RK3033	Chip R	1608 1/10W 390 OHM J	
R819	RK3023	Chip R	1608 1/10W 56 OHM J	
R820	RK4085	Chip R	3225 1/4W 8.2 OHM J	
R821	RK4095	Chip R	RK73B2ETTD102J	
R822	RE0046	Resistor	MOS3CT521A180J	
R823	RK4028	Chip R	4532 1/2W 150 OHM J	
R824	RK0018	Chip R	2125 1/8W 100 OHM J	
R825	RK0035	Chip R	2125 1/8W 1 K OHM J	
R826	RK0039	Chip R	2125 1/8W 2.2KOHM J	
R827	RK4051	Chip R	3225 1/4W 100 OHM J	
R828	RK4051	Chip R	3225 1/4W 100 OHM J	
R829	RK3038	Chip R	1608 1/10W 1.0KOHM J	
R830	RE0045	Resistor	MOSX3CT521A4R7J	
R831	RK1025	Chip R	3216 1/8 W 330 OHM J	
R832	RK0031	Chip R	2125 1/8W 680 OHM J	
R833	RK3038	Chip R	1608 1/10W 1.0KOHM J	
R834	RK0039	Chip R	2125 1/8W 2.2KOHM J	
R835	RK0005	Chip R	2125 1/8W 22 OHM J	
R836	RK3062	Chip R	1608 1/10W 100KOHM J	
R837	RK0107	Chip R	2125 1/8W 0OHM	
R901	RK3001	Chip R	1608 0 OHM	
R902	RK4029	Chip R	4532 1/2W 180 OHM J	
R903	RK0065	Chip R	2125 1/8W 68K OHM J	
R904	RK4024	Chip R	4532 1/2W 68 OHM J	
R905	RK0107	Chip R	2125 1/8W 0OHM	
R906	RK3001	Chip R	1608 0 OHM	
R907	NC			
R908	RK3050	Chip R	1608 1/10W 10K OHM J	
R909	RK3050	Chip R	1608 1/10W 10K OHM J	
R910	RK3034	Chip R	1608 1/10W 470 OHM J	
R911	RK3052	Chip R	1608 1/10W 15K OHM J	
R912	RK3052	Chip R	1608 1/10W 15K OHM J	
R913	RK3062	Chip R	1608 1/10W 100KOHM J	
R914	RK3062	Chip R	1608 1/10W 100KOHM J	
R915	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R916	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R917	RK3023	Chip R	1608 1/10W 56 OHM J	
R918	RK0008	Chip R	2125 1/8W 33 OHM J	
R919	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R920	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R921	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R922	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R923	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
RL801	UL0029	Relay	G5NB-1A DC12V	
RL901	UL0006	Relay	AG201344	
RL902	UL0006	Relay	AG201344	
RL903	UL0006	Relay	AG201344	
RL904	UL0006	Relay	AG201344	
RL905	UL0006	Relay	AG201344	
RL906	UL0006	Relay	AG201344	
RL907	UL0006	Relay	AG201344	
RL908	UL0006	Relay	AG201344	
RL909	UL0006	Relay	AG201344	
RL910	UL0006	Relay	AG201344	
RL911	UL0006	Relay	AG201344	
RL912	UL0006	Relay	AG201344	
RL913	UL0006	Relay	AG201344	
RL914	UL0006	Relay	AG201344	
SA901	EU0002	Surge	SA05CT52A301N	
TC901	CT0059	Trimmer	CV05D2001C	
TH801	XS0063	Thermistor	GA13-3H103JB	
TP801	NC			
TP802	UE0047	Connector	ROUND PIN R9X10	
TP803	UE0047	Connector	ROUND PIN R9X10	
TP804	UE0047	Connector	ROUND PIN R9X10	
TP805	NC			
TP806	UE0047	Connector	ROUND PIN R9X10	
TP807	NC			
TP808	UE0047	Connector	ROUND PIN R9X10	
TP809	UE0047	Connector	ROUND PIN R9X10	
TP810	UE0047	Connector	ROUND PIN R9X10	
TP811	NC			
TP901	NC			
VR801	RH0276	Trimmer R	VZ067TL1B222	
VR802	RH0206	Trimmer R	PVA2A102A01R00	
VR803	RH0276	Trimmer R	VZ067TL1B222	
VR804	RH0206	Trimmer R	PVA2A102A01R00	
W801	RD0108	Resistor	1/6W TYPE 0 OHM	
	QB0069		HF70RH10X20X5	
	TZ0066		ACC.FOR 2SC1971/01	
	UP0655	PCB	DXSR8 PA INTEGRATED	
	UP0318		DXSR8 QR0024F TRANS	
	TT1001		0.7X1MM	
	FM0220		GROUND PLATE DR620	
	YZ0042		CEMENT G17 / 1G	

MAIN Unit

Ref. No.	Parts No.	Description	Parts Name	Version
C101	CU3547	Chip C	GRM36B103K16PT	
C102	CU3547	Chip C	GRM36B103K16PT	
C103	CU3111	Chip C	1608 B 25V 0.1UF	
C104	CU3111	Chip C	1608 B 25V 0.1UF	
C105	CU3547	Chip C	GRM36B103K16PT	
C106	CU3554	Chip C	GRM36B104K10PT	
C107	CU3523	Chip C	GRM1552C1H101JZ01D	
C108	CU3523	Chip C	GRM1552C1H101JZ01D	
C109	CU3559	Chip C	GRM155B30J105KE18D	

MAIN Unit

Ref. No.	Parts No.	Description	Parts Name	Version
C110	CU3517	Chip C	GRM36CH330J50PT	
C111	CU3517	Chip C	GRM36CH330J50PT	
C112	CU3547	Chip C	GRM36B103K16PT	
C113	CU3504	Chip C	GRM36CJ030C50PT	
C114	CU3543	Chip C	GRM36B472K25PT	
C115	CU3543	Chip C	GRM36B472K25PT	
C116	CU3565	Chip C	GJM1552C1H5R0FB01D	
C117	CU3553	Chip C	GRM36B473K10PT	
C118	CU3553	Chip C	GRM36B473K10PT	
C119	CU3545	Chip C	1005 B 25V 0.0068UFK	
C120	CU3547	Chip C	GRM36B103K16PT	
C121	CU3511	Chip C	GRM36CH100D50PT	
C122	CU3547	Chip C	GRM36B103K16PT	
C123	CU3554	Chip C	GRM36B104K10PT	
C124	CU3535	Chip C	GRM36B102K50PT	
C125	CU3518	Chip C	GRM36CH390J50PT	
C126	CU3513	Chip C	GRM36CH150J50PT	
C127	CU3509	Chip C	GRM36CH080D50PT	
C128	CU3531	Chip C	GRM36B471K50PT	
C129	CU3525	Chip C	GRM1552C1H151JD01D	
C130	CU3553	Chip C	GRM36B473K10PT	
C131	CU3512	Chip C	GRM36CH120J50PT	
C132	CU3512	Chip C	GRM36CH120J50PT	
C133	CU3508	Chip C	1005 CH 50V 7PF D	
C134	CU3524	Chip C	GRM1552C1H121JA01D	
C135	CU3527	Chip C	GRM1552C1E221JD01D	
C136	CU3547	Chip C	GRM36B103K16PT	
C137	CU3512	Chip C	GRM36CH120J50PT	
C138	CU3553	Chip C	GRM36B473K10PT	
C139	CU3554	Chip C	GRM36B104K10PT	
C140	CU3585	Chip C	GRM155B31A474KE14D	
C141	CU3553	Chip C	GRM36B473K10PT	
C142	CU3553	Chip C	GRM36B473K10PT	
C143	CU3547	Chip C	GRM36B103K16PT	
C144	CU3547	Chip C	GRM36B103K16PT	
C145	CU3547	Chip C	GRM36B103K16PT	
C146	CU3553	Chip C	GRM36B473K10PT	
C147	CU3553	Chip C	GRM36B473K10PT	
C148	CU3547	Chip C	GRM36B103K16PT	
C149	CU3553	Chip C	GRM36B473K10PT	
C150	CU3535	Chip C	GRM36B102K50PT	
C151	CU3551	Chip C	GRM36B223K16PT	
C152	CU3111	Chip C	1608 B 25V 0.1UF	
C153	CU3547	Chip C	GRM36B103K16PT	
C154	CU3041	Chip C	1608 B 50V 0.0033UF	
C155	CU3023	Chip C	1608 CH 50V 100PF J	
C156	CU3038	Chip C	1608 B 50V 0.0018UF	
C157	CU3528	Chip C	GRM1552C1E271JD01D	
C158	CU3111	Chip C	1608 B 25V 0.1UF	
C159	CU3553	Chip C	GRM36B473K10PT	
C160	CU3037	Chip C	1608 B 50V 0.0015UF	
C161	CU3111	Chip C	1608 B 25V 0.1UF	
C162	CU3035	Chip C	1608 B 50V 0.001UF	
C163	CU3035	Chip C	1608 B 50V 0.001UF	
C164	CU3531	Chip C	GRM36B471K50PT	
C165	CU3553	Chip C	GRM36B473K10PT	
C166	CU3553	Chip C	GRM36B473K10PT	
C167	CU3038	Chip C	1608 B 50V 0.0018UF	
C168	CU3051	Chip C	1608 B 50V 0.022UF	
C169	CU3547	Chip C	GRM36B103K16PT	
C170	CU3554	Chip C	GRM36B104K10PT	
C171	CU3553	Chip C	GRM36B473K10PT	
C172	CU3515	Chip C	GRM36CH220J50PT	
C173	CU3547	Chip C	GRM36B103K16PT	
C174	CU3027	Chip C	1608 CH 50V 220PF J	
C175	CU3531	Chip C	GRM36B471K50PT	
C176	CU3531	Chip C	GRM36B471K50PT	
C177	CU3531	Chip C	GRM36B471K50PT	
C178	CU3101	Chip C	1608 B 50V 0.047UF K	
C179	CU3038	Chip C	1608 B 50V 0.0018UF	
C180	CU3037	Chip C	1608 B 50V 0.0015UF	
C181	CU3547	Chip C	GRM36B103K16PT	
C182	CU3547	Chip C	GRM36B103K16PT	
C183	CU3547	Chip C	GRM36B103K16PT	
C184	CU3547	Chip C	GRM36B103K16PT	
C185	CU3547	Chip C	GRM36B103K16PT	
C186	CU3547	Chip C	GRM36B103K16PT	
C187	CU3547	Chip C	GRM36B103K16PT	
C188	CU3547	Chip C	GRM36B103K16PT	

Ref. No.	Parts No.	Description	Parts Name	Version
C189	CU3037	Chip C	1608 B 50V 0.0015UF	
C190	CU3035	Chip C	1608 B 50V 0.001UF	
C191	CS0436	Chip Tantalum	TMCMB1C336M	
C192	CU3553	Chip C	GRM36B473K10PT	
C193	CU3553	Chip C	GRM36B473K10PT	
C194	CU3535	Chip C	GRM36B102K50PT	
C195	CU3553	Chip C	GRM36B473K10PT	
C196	CU3553	Chip C	GRM36B473K10PT	
C197	CU3547	Chip C	GRM36B103K16PT	
C198	CU3553	Chip C	GRM36B473K10PT	
C199	CU3553	Chip C	GRM36B473K10PT	
C200	CU3024	Chip C	1608 CH 50V 120PF J	
C201	CU3582	Chip C	GRM155B31A154KE18D	
C202	CU3553	Chip C	GRM36B473K10PT	
C203	CU3553	Chip C	GRM36B473K10PT	
C204	CU3101	Chip C	1608 B 50V 0.047UF K	
C205	CU3110	Chip C	1608 B 50V0.0012UF	
C206	CU3035	Chip C	1608 B 50V 0.001UF	
C207	CU3047	Chip C	1608 B 50V 0.010UF	
C208	CU3101	Chip C	1608 B 50V 0.047UF K	
C209	CE0364	Electrolytic C	16V 47UF	
C210	CU3553	Chip C	GRM36B473K10PT	
C211	CU3047	Chip C	1608 B 50V 0.010UF	
C212	CU3547	Chip C	GRM36B103K16PT	
C213	CU3033	Chip C	1608 B 50V 680PF K	
C214	CU3032	Chip C	1608 B 50V 560PF K	
C215	CU3535	Chip C	GRM36B102K50PT	
C216	CU3513	Chip C	GRM36CH150J50PT	
C217	CU3022	Chip C	1608 CH 50V 82PF J	
C218	CU3547	Chip C	GRM36B103K16PT	
C219	CU3535	Chip C	GRM36B102K50PT	
C220	CU3518	Chip C	GRM36CH390J50PT	
C221	CU3518	Chip C	GRM36CH390J50PT	
C222	CU3101	Chip C	1608 B 50V 0.047UF K	
C223	CU3032	Chip C	1608 B 50V 560PF K	
C224	CU3031	Chip C	1608 B 50V 470PF K	
C225	CU3044	Chip C	1608 B 50V 0.0056UF	
C226	CU3101	Chip C	1608 B 50V 0.047UF K	
C227	CU3554	Chip C	GRM36B104K10PT	
C228	CU3031	Chip C	1608 B 50V 470PF K	
C229	CU3030	Chip C	1608 B 50V 390PF K	
C230	CU3554	Chip C	GRM36B104K10PT	
C231	CU3510	Chip C	1005 CH 50V 9PF D	
C232	CU3535	Chip C	GRM36B102K50PT	
C233	CU3019	Chip C	1608 CH 50V 47PF J	
C234	CU3522	Chip C	GRM1552C1H820JD01D	
C235	CU3513	Chip C	GRM36CH150J50PT	
C236	CU3519	Chip C	GRM36CH470J50PT	
C237	CU3512	Chip C	GRM36CH120J50PT	
C238	CU3505	Chip C	GRM36CH040C50PT	
C239	CU3510	Chip C	1005 CH 50V 9PF D	
C240	CU3512	Chip C	GRM36CH120J50PT	
C241	CU3547	Chip C	GRM36B103K16PT	
C242	CU3554	Chip C	GRM36B104K10PT	
C243	CU3547	Chip C	GRM36B103K16PT	
C244	CU3547	Chip C	GRM36B103K16PT	
C245	CU3101	Chip C	1608 B 50V 0.047UF K	
C246	CU3031	Chip C	1608 B 50V 470PF K	
C247	CU3029	Chip C	1608 B 50V 330PF K	
C248	CU3040	Chip C	1608 B 50V 0.0027UF	
C249	CU3101	Chip C	1608 B 50V 0.047UF K	
C250	CU3554	Chip C	GRM36B104K10PT	
C251	CU3554	Chip C	GRM36B104K10PT	
C252	CU3523	Chip C	GRM1552C1H101JZ01D	
C253	CU3522	Chip C	GRM1552C1H820JD01D	
C254	CU3554	Chip C	GRM36B104K10PT	
C255	CU3554	Chip C	GRM36B104K10PT	
C256	CU3029	Chip C	1608 B 50V 330PF K	
C257	CU3028	Chip C	1608 CH 50V 270PF J	
C258	CU3553	Chip C	GRM36B473K10PT	
C259	CU3554	Chip C	GRM36B104K10PT	
C260	CU3535	Chip C	GRM36B102K50PT	
C261	CU3547	Chip C	GRM36B103K16PT	
C262	CU3017	Chip C	1608 CH 50V 33PF J	
C263	CU3554	Chip C	GRM36B104K10PT	
C264	CU3554	Chip C	GRM36B104K10PT	
C265	CU3101	Chip C	1608 B 50V 0.047UF K	
C266	CU3029	Chip C	1608 B 50V 330PF K	
C267	CU3027	Chip C	1608 CH 50V 220PF J	

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Ref. No.	Parts No.	Description	Parts Name	Version
C268	CU3038	Chip C	1608 B 50V 0.0018UF	
C269	CU3101	Chip C	1608 B 50V 0.047UF K	
C270	CU3547	Chip C	GRM36B103K16PT	
C271	CU3027	Chip C	1608 CH 50V 220PF J	
C272	CU3025	Chip C	1608 CH 50V 150PF J	
C273	CU3016	Chip C	1608 CH 50V 27PF J	
C274	CU3521	Chip C	GRM1552C1H680JZ01D	
C275	CU3101	Chip C	1608 B 50V 0.047UF K	
C276	CU3027	Chip C	1608 CH 50V 220PF J	
C277	CU3025	Chip C	1608 CH 50V 150PF J	
C278	CU3110	Chip C	1608 B 50V0.0012UF	
C279	CU3101	Chip C	1608 B 50V 0.047UF K	
C280	CU3025	Chip C	1608 CH 50V 150PF J	
C281	CU3023	Chip C	1608 CH 50V 100PF J	
C282	CU3014	Chip C	1608 CH 50V 18PF J	
C283	CU3101	Chip C	1608 B 50V 0.047UF K	
C284	CU3025	Chip C	1608 CH 50V 150PF J	
C285	CU3024	Chip C	1608 CH 50V 120PF J	
C286	CU3034	Chip C	1608 B 50V 820PF K	
C287	CU3101	Chip C	1608 B 50V 0.047UF K	
C288	CU3101	Chip C	1608 B 50V 0.047UF K	
C289	CU3547	Chip C	GRM36B103K16PT	
C290	CU3547	Chip C	GRM36B103K16PT	
C291	CS0424	Chip Tantalum	TMCMA1C106MTR	
C292	CU3554	Chip C	GRM36B104K10PT	
C293	CS0424	Chip Tantalum	TMCMA1C106MTR	
C294	CU3552	Chip C	GRM36B333K10PT	
C295	CU3553	Chip C	GRM36B473K10PT	
C296	CU3547	Chip C	GRM36B103K16PT	
C297	CS0424	Chip Tantalum	TMCMA1C106MTR	
C298	CU3137	Chip C	GRM188B31C105KA92D	
C299	CU3554	Chip C	GRM36B104K10PT	
C300	CU3547	Chip C	GRM36B103K16PT	
C301	CU3547	Chip C	GRM36B103K16PT	
C302	CU3553	Chip C	GRM36B473K10PT	
C303	CU3553	Chip C	GRM36B473K10PT	
C304	CU3547	Chip C	GRM36B103K16PT	
C305	CU3547	Chip C	GRM36B103K16PT	
C306	CU3545	Chip C	1005 B 25V 0.0068UFK	
C307	CU3529	Chip C	GRM36B331K50PT	
C308	CU3584	Chip C	GRM155B31A334KE14D	
C309	CU3553	Chip C	GRM36B473K10PT	
C310	CU3553	Chip C	GRM36B473K10PT	
C311	CU3553	Chip C	GRM36B473K10PT	
C312	CU3553	Chip C	GRM36B473K10PT	
C313	CU3551	Chip C	GRM36B223K16PT	
C314	CU3547	Chip C	GRM36B103K16PT	
C315	CS0424	Chip Tantalum	TMCMA1C106MTR	
C316	CU3547	Chip C	GRM36B103K16PT	
C317	CU3553	Chip C	GRM36B473K10PT	
C318	CU3554	Chip C	GRM36B104K10PT	
C319	CU3554	Chip C	GRM36B104K10PT	
C320	CU3553	Chip C	GRM36B473K10PT	
C321	CU3553	Chip C	GRM36B473K10PT	
C322	CU3539	Chip C	GRM36B222K50PT	
C323	CU3527	Chip C	GRM1552C1E221JD01D	
C324	CU3539	Chip C	GRM36B222K50PT	
C325	CU3137	Chip C	GRM188B31C105KA92D	
C326	CU3553	Chip C	GRM36B473K10PT	
C327	CU3531	Chip C	GRM36B471K50PT	
C328	CU3553	Chip C	GRM36B473K10PT	
C329	CU3553	Chip C	GRM36B473K10PT	
C330	CU3553	Chip C	GRM36B473K10PT	
C331	CU3531	Chip C	GRM36B471K50PT	
C332	CU3553	Chip C	GRM36B473K10PT	
C333	CU3553	Chip C	GRM36B473K10PT	
C334	CU3547	Chip C	GRM36B103K16PT	
C335	CU3553	Chip C	GRM36B473K10PT	
C336	CU3583	Chip C	GRM155B31A224KE18D	
C337	CU3553	Chip C	GRM36B473K10PT	
C338	CU3551	Chip C	GRM36B223K16PT	
C339	CU3553	Chip C	GRM36B473K10PT	
C340	CU3553	Chip C	GRM36B473K10PT	
C341	CU3523	Chip C	GRM1552C1H101JZ01D	
C342	CU3554	Chip C	GRM36B104K10PT	
C343	CU3553	Chip C	GRM36B473K10PT	
C344	CU3553	Chip C	GRM36B473K10PT	
C345	CU3554	Chip C	GRM36B104K10PT	
C346	CU3554	Chip C	GRM36B104K10PT	

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C347	CU3553	Chip C	GRM36B473K10PT	
C348	CU3553	Chip C	GRM36B473K10PT	
C349	CU3547	Chip C	GRM36B103K16PT	
C350	CU3525	Chip C	GRM1552C1H151JD01D	
C351	CS0424	Chip Tantalum	TMCMA1C106MTR	
C352	NC			
C353	CU3517	Chip C	GRM36CH330J50PT	
C354	CU3529	Chip C	GRM36B331K50PT	
C355	CU3553	Chip C	GRM36B473K10PT	
C356	CU3553	Chip C	GRM36B473K10PT	
C357	CU3554	Chip C	GRM36B104K10PT	
C358	CU3554	Chip C	GRM36B104K10PT	
C359	CS0424	Chip Tantalum	TMCMA1C106MTR	
C360	CU3554	Chip C	GRM36B104K10PT	
C361	CU3554	Chip C	GRM36B104K10PT	
C362	CU3554	Chip C	GRM36B104K10PT	
C363	CU3137	Chip C	GRM188B31C105KA92D	
C364	CU3554	Chip C	GRM36B104K10PT	
C365	CU3551	Chip C	GRM36B223K16PT	
C366	CU3547	Chip C	GRM36B103K16PT	
C367	CU3521	Chip C	GRM1552C1H680JZ01D	
C368	CU3559	Chip C	GRM155B30J105KE18D	
C369	CU3535	Chip C	GRM36B102K50PT	
C370	CU0118	Chip C	GRM21BB31C475KA87L	
C371	CS0424	Chip Tantalum	TMCMA1C106MTR	
C372	CU3553	Chip C	GRM36B473K10PT	
C373	CU3553	Chip C	GRM36B473K10PT	
C374	CU3553	Chip C	GRM36B473K10PT	
C375	CU3535	Chip C	GRM36B102K50PT	
C376	CU3535	Chip C	GRM36B102K50PT	
C377	CU3137	Chip C	GRM188B31C105KA92D	
C378	CU3541	Chip C	GRM36B332K50PT	
C379	CU3541	Chip C	GRM36B332K50PT	
C380	CU3535	Chip C	GRM36B102K50PT	
C381	CS0424	Chip Tantalum	TMCMA1C106MTR	
C382	CU3547	Chip C	GRM36B103K16PT	
C383	CU3543	Chip C	GRM36B472K25PT	
C384	CU3553	Chip C	GRM36B473K10PT	
C385	CU3553	Chip C	GRM36B473K10PT	
C386	CU3554	Chip C	GRM36B104K10PT	
C387	CE0353	Electrolytic C	16V 470UF	
C388	CE0352	Electrolytic C	16V 330UF	
C389	CU3585	Chip C	GRM155B31A474KE14D	
C390	CU3554	Chip C	GRM36B104K10PT	
C391	CU3526	Chip C	GRM1552C1E181JD01D	
C392	CU3538	Chip C	GRM36B182K50PT	
C393	CE0351	Electrolytic C	16V 220UF	
C394	CU3554	Chip C	GRM36B104K10PT	
C395	CS0367	Chip Tantalum	6.3V 10UF	
C396	CU3554	Chip C	GRM36B104K10PT	
C397	CU3559	Chip C	GRM155B30J105KE18D	
C398	CU3027	Chip C	1608 CH 50V 220PF J	
C399	CE0339	Electrolytic C	16V 10UF	
C400	CU3047	Chip C	1608 B 50V 0.010UF	
C401	CE0364	Electrolytic C	16V 47UF	
C402	CU3047	Chip C	1608 B 50V 0.010UF	
C403	CU3047	Chip C	1608 B 50V 0.010UF	
C404	CE0339	Electrolytic C	16V 10UF	
C405	CU3047	Chip C	1608 B 50V 0.010UF	
C406	CS0424	Chip Tantalum	TMCMA1C106MTR	
C407	CU3547	Chip C	GRM36B103K16PT	
C408	CU3547	Chip C	GRM36B103K16PT	
C409	CU3137	Chip C	GRM188B31C105KA92D	
C410	CU3547	Chip C	GRM36B103K16PT	
C411	CU3547	Chip C	GRM36B103K16PT	
C412	CU3547	Chip C	GRM36B103K16PT	
C413	CU3047	Chip C	1608 B 50V 0.010UF	
C414	CU3554	Chip C	GRM36B104K10PT	
C415	CU3047	Chip C	1608 B 50V 0.010UF	
C416	CU3047	Chip C	1608 B 50V 0.010UF	
C417	CU3137	Chip C	GRM188B31C105KA92D	
C418	CU3547	Chip C	GRM36B103K16PT	
C419	CS0424	Chip Tantalum	TMCMA1C106MTR	
C420	CU3137	Chip C	GRM188B31C105KA92D	
C421	CU0123	Chip C	GRM21BB31E155KA87L	
C422	CU3547	Chip C	GRM36B103K16PT	
C423	CU3547	Chip C	GRM36B103K16PT	
C424	CU3547	Chip C	GRM36B103K16PT	
C425	CU3138	Chip C	GRM188B31C225KE14D	

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C426	CU3547	Chip C	GRM36B103K16PT	
C427	CU3137	Chip C	GRM188B31C105KA92D	
C428	CU3147	Chip C	GRM188B31A335KE15D	
C429	CU3535	Chip C	GRM36B102K50PT	
C430	CU3138	Chip C	GRM188B31C225KE14D	
C431	CU3541	Chip C	GRM36B332K50PT	
C432	CS0424	Chip Tantalum	TMCMA1C106MTR	
C433	CU3535	Chip C	GRM36B102K50PT	
C434	CU3137	Chip C	GRM188B31C105KA92D	
C435	CU3554	Chip C	GRM36B104K10PT	
C436	CU3554	Chip C	GRM36B104K10PT	
C437	CU3547	Chip C	GRM36B103K16PT	
C438	CU3547	Chip C	GRM36B103K16PT	
C439	CU3547	Chip C	GRM36B103K16PT	
C440	CU3553	Chip C	GRM36B473K10PT	
C441	CU3547	Chip C	GRM36B103K16PT	
C442	CU3535	Chip C	GRM36B102K50PT	
C443	CU3547	Chip C	GRM36B103K16PT	
C444	CU3547	Chip C	GRM36B103K16PT	
C445	CU3547	Chip C	GRM36B103K16PT	
C446	CU3547	Chip C	GRM36B103K16PT	
C447	CU3137	Chip C	GRM188B31C105KA92D	
C448	CU3047	Chip C	1608 B 50V 0.010UF	
C449	CU3047	Chip C	1608 B 50V 0.010UF	
C450	CU3047	Chip C	1608 B 50V 0.010UF	
C451	CU3547	Chip C	GRM36B103K16PT	
C452	CU3547	Chip C	GRM36B103K16PT	
C453	CU3547	Chip C	GRM36B103K16PT	
C454	CU3554	Chip C	GRM36B104K10PT	
C455	CU3559	Chip C	GRM155B30J105KE18D	
C456	CU3543	Chip C	GRM36B472K25PT	
C457	CU3547	Chip C	GRM36B103K16PT	
C458	CU3547	Chip C	GRM36B103K16PT	
C459	CS0424	Chip Tantalum	TMCMA1C106MTR	
C460	CU3544	Chip C	GRM36B562K25PT	
C461	CU3554	Chip C	GRM36B104K10PT	
C462	CU3547	Chip C	GRM36B103K16PT	
C463	CU3554	Chip C	GRM36B104K10PT	
C464	CU3585	Chip C	GRM155B31A474KE14D	
C465	CU3551	Chip C	GRM36B223K16PT	
C466	CU3554	Chip C	GRM36B104K10PT	
C467	CU3137	Chip C	GRM188B31C105KA92D	
C468	CU3547	Chip C	GRM36B103K16PT	
C469	CU3547	Chip C	GRM36B103K16PT	
C470	CU3547	Chip C	GRM36B103K16PT	
C471	CU3526	Chip C	GRM1552C1E181JD01D	
C472	CU3539	Chip C	GRM36B222K50PT	
C473	CU3547	Chip C	GRM36B103K16PT	
C474	CU3554	Chip C	GRM36B104K10PT	
C475	CU3547	Chip C	GRM36B103K16PT	
C476	CU3547	Chip C	GRM36B103K16PT	
C477	CU3547	Chip C	GRM36B103K16PT	
C478	CU3547	Chip C	GRM36B103K16PT	
C479	CU3035	Chip C	1608 B 50V 0.001UF	
C480	CE0339	Electrolytic C	16V 10UF	
C481	CU3547	Chip C	GRM36B103K16PT	
C482	CU3547	Chip C	GRM36B103K16PT	
C483	CU3111	Chip C	1608 B 25V 0.1UF	
C484	CU3547	Chip C	GRM36B103K16PT	
C485	CS0424	Chip Tantalum	TMCMA1C106MTR	
C486	CS0424	Chip Tantalum	TMCMA1C106MTR	
C487	CU0118	Chip C	GRM21BB31C475KA87L	
C488	CU3138	Chip C	GRM188B31C225KE14D	
C489	CU3554	Chip C	GRM36B104K10PT	
C490	CU3554	Chip C	GRM36B104K10PT	
C491	CS0426	Chip Tantalum	10V 10UF A	
C492	CU3551	Chip C	GRM36B223K16PT	
C493	CU3535	Chip C	GRM36B102K50PT	
C494	CU3547	Chip C	GRM36B103K16PT	
C495	CU3554	Chip C	GRM36B104K10PT	
C496	CU3554	Chip C	GRM36B104K10PT	
C497	CU3547	Chip C	GRM36B103K16PT	
C498	CU3551	Chip C	GRM36B223K16PT	
C499	CU3527	Chip C	GRM1552C1E221JD01D	
C500	CU3527	Chip C	GRM1552C1E221JD01D	
C501	CU3547	Chip C	GRM36B103K16PT	
C601	CS0225	Chip Tantalum	20V 1.5UF	
C602	CS0225	Chip Tantalum	20V 1.5UF	
C603	CU3547	Chip C	GRM36B103K16PT	

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C604	CS0229	Chip Tantalum	25V 0.68UF	
C605	CU3547	Chip C	GRM36B103K16PT	
C606	CE0350	Electrolytic C	16V 100UF	
C607	CU3547	Chip C	GRM36B103K16PT	
C608	CE0350	Electrolytic C	16V 100UF	
C609	CU3547	Chip C	GRM36B103K16PT	
C610	CU3547	Chip C	GRM36B103K16PT	
C611	CU3547	Chip C	GRM36B103K16PT	
C612	CS0424	Chip Tantalum	TMCMA1C106MTR	
C613	CU3535	Chip C	GRM36B102K50PT	
C614	CE0350	Electrolytic C	16V 100UF	
C615	CU3523	Chip C	GRM1552C1H101JZ01D	
C616	CU3554	Chip C	GRM36B104K10PT	
C617	CU3547	Chip C	GRM36B103K16PT	
C618	CU3531	Chip C	GRM36B471K50PT	
C619	CU3547	Chip C	GRM36B103K16PT	
C620	CU3520	Chip C	GRM1552C1H560JD01D	
C621	CU3520	Chip C	GRM1552C1H560JD01D	
C622	CU3551	Chip C	GRM36B223K16PT	
C623	CU3503	Chip C	GRM36CK020C50PT	
C624	CU3554	Chip C	GRM36B104K10PT	
C625	CU3547	Chip C	GRM36B103K16PT	
C626	CU3504	Chip C	GRM36CJ030C50PT	
C627	CU3547	Chip C	GRM36B103K16PT	
C628	CU3547	Chip C	GRM36B103K16PT	
C629	CU3514	Chip C	GRM36CH180J50PT	
C630	CU3554	Chip C	GRM36B104K10PT	
C631	CU3547	Chip C	GRM36B103K16PT	
C632	NC			
C633	CS0424	Chip Tantalum	TMCMA1C106MTR	
C634	CU3547	Chip C	GRM36B103K16PT	
C635	CU3554	Chip C	GRM36B104K10PT	
C636	CE0364	Electrolytic C	16V 47UF	
C637	CU3516	Chip C	GRM36CH270J50PT	
C638	CU3516	Chip C	GRM36CH270J50PT	
C639	CU3547	Chip C	GRM36B103K16PT	
C640	CU3525	Chip C	GRM1552C1H151JD01D	
C641	CU3554	Chip C	GRM36B104K10PT	
C642	CU3554	Chip C	GRM36B104K10PT	
C643	CU3547	Chip C	GRM36B103K16PT	
C644	CS0424	Chip Tantalum	TMCMA1C106MTR	
C645	CU3547	Chip C	GRM36B103K16PT	
C646	CU3554	Chip C	GRM36B104K10PT	
C647	CU3554	Chip C	GRM36B104K10PT	
C648	CU3514	Chip C	GRM36CH180J50PT	
C649	CU3554	Chip C	GRM36B104K10PT	
C650	CU3523	Chip C	GRM1552C1H101JZ01D	
C651	CU3517	Chip C	GRM36CH330J50PT	
C652	CU3547	Chip C	GRM36B103K16PT	
C653	CU3554	Chip C	GRM36B104K10PT	
C654	CU3554	Chip C	GRM36B104K10PT	
C655	CU3547	Chip C	GRM36B103K16PT	
C656	CS0424	Chip Tantalum	TMCMA1C106MTR	
C657	CU3547	Chip C	GRM36B103K16PT	
C658	CU3554	Chip C	GRM36B104K10PT	
C659	CU3554	Chip C	GRM36B104K10PT	
C660	CU3547	Chip C	GRM36B103K16PT	
C661	NC			
C662	CU3541	Chip C	GRM36B332K50PT	
C663	CU3521	Chip C	GRM1552C1H680JZ01D	
C664	CU3521	Chip C	GRM1552C1H680JZ01D	
C665	CU3520	Chip C	GRM1552C1H560JD01D	
C666	CU3546	Chip C	GRM36B822K16PT	
C667	CU3546	Chip C	GRM36B822K16PT	
C668	CU3554	Chip C	GRM36B104K10PT	
C669	CU3547	Chip C	GRM36B103K16PT	
C670	CS0424	Chip Tantalum	TMCMA1C106MTR	
C671	CU3547	Chip C	GRM36B103K16PT	
C672	CS0424	Chip Tantalum	TMCMA1C106MTR	
C673	CU3547	Chip C	GRM36B103K16PT	
C674	CU3523	Chip C	GRM1552C1H101JZ01D	
C675	CU3523	Chip C	GRM1552C1H101JZ01D	
C676	CU3523	Chip C	GRM1552C1H101JZ01D	
C679	CU3137	Chip C	GRM188B31C105KA92D	
C680	CU3547	Chip C	GRM36B103K16PT	
C681	CS0432	Chip Tantalum	TMCMA1A226MTR	
C682	CS0432	Chip Tantalum	TMCMA1A226MTR	
C683	CU3547	Chip C	GRM36B103K16PT	
C684	CU3543	Chip C	GRM36B472K25PT	

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C685	CE0350	Electrolytic C	16V 100UF	
C686	CU3547	Chip C	GRM36B103K16PT	
C687	CU3547	Chip C	GRM36B103K16PT	
C688	CU3547	Chip C	GRM36B103K16PT	
C689	CU3547	Chip C	GRM36B103K16PT	
C690	CU3547	Chip C	GRM36B103K16PT	
C691	CU3520	Chip C	GRM1552C1H560JD01D	
C692	CU3520	Chip C	GRM1552C1H560JD01D	
C693	CU3531	Chip C	GRM36B471K50PT	
C694	CU3512	Chip C	GRM36CH120J50PT	
C695	CU3502	Chip C	GRM36CK010C50PT	
C696	CU3551	Chip C	GRM36B223K16PT	
C697	CS0229	Chip Tantalum	25V 0.68UF	
C698	CU3554	Chip C	GRM36B104K10PT	
C699	NC			
C700	CU3518	Chip C	GRM36CH390J50PT	
C701	CU3535	Chip C	GRM36B102K50PT	
C702	CU3547	Chip C	GRM36B103K16PT	
C703	CU3512	Chip C	GRM36CH120J50PT	
C704	CU3547	Chip C	GRM36B103K16PT	
C705	CU3547	Chip C	GRM36B103K16PT	
C706	CU3547	Chip C	GRM36B103K16PT	
C707	CU3547	Chip C	GRM36B103K16PT	
C708	CU3138	Chip C	GRM188B31C225KE14D	
C709	CU3547	Chip C	GRM36B103K16PT	
C710	CU3523	Chip C	GRM1552C1H101JZ01D	
C711	CU3584	Chip C	GRM155B31A334KE14D	
C712	CU3547	Chip C	GRM36B103K16PT	
C713	CU3531	Chip C	GRM36B471K50PT	
C714	CU3547	Chip C	GRM36B103K16PT	
C715	CU3547	Chip C	GRM36B103K16PT	
C716	CU3547	Chip C	GRM36B103K16PT	
C717	CU3554	Chip C	GRM36B104K10PT	
C718	CS0424	Chip Tantalum	TMCMA1C106MTR	
C719	CS0424	Chip Tantalum	TMCMA1C106MTR	
C720	CU3505	Chip C	GRM36CH040C50PT	
CN101	UJ0045	Connector	HJC0282-010022	
CN102	NC			
CN103	UE0041	Connector	CONNECT.TMP-J01X-V6	
CN104	UX1421	Connector	WIRE MAIN-PA	
CN105	UX1421	Connector	WIRE MAIN-PA	
CN106	UE0602	Connector	B5B-PH-K-S(LF)(SN)	
CN107	UE0226	Connector	B2B-PH-K-S(FL)(SN)	
CN108	UE0041	Connector	CONNECT.TMP-J01X-V6	
D101	XD0402	Diode	VDZT2R 5.1B	
D102	XD0402	Diode	VDZT2R 5.1B	
D103	XD0482	Diode	1SS405(TPH3,F)	
D104	XD0402	Diode	VDZT2R 5.1B	
D105	XD0482	Diode	1SS405(TPH3,F)	
D106	XD0402	Diode	VDZT2R 5.1B	
D107	XD0402	Diode	VDZT2R 5.1B	
D108	XD0320	Diode	DAN235E-TL	
D109	XD0320	Diode	DAN235E-TL	
D110	XD0320	Diode	DAN235E-TL	
D111	XD0302	Diode	HSB88WSTR	
D112	XD0266	Diode	DAP236UT106	
D113	XD0272	Diode	1SS356	
D114	XD0230	Diode	DAN202U	
D115	XD0482	Diode	1SS405(TPH3,F)	
D116	XD0266	Diode	DAP236UT106	
D117	XD0266	Diode	DAP236UT106	
D118	XD0482	Diode	1SS405(TPH3,F)	
D119	XD0266	Diode	DAP236UT106	
D120	XD0320	Diode	DAN235E-TL	
D121	XD0320	Diode	DAN235E-TL	
D122	XD0266	Diode	DAP236UT106	
D123	XD0230	Diode	DAN202U	
D124	XD0266	Diode	DAP236UT106	
D125	XD0266	Diode	DAP236UT106	
D126	XD0272	Diode	1SS356	
D127	NC			
D128	XD0320	Diode	DAN235E-TL	
D129	XD0272	Diode	1SS356	
D130	XD0272	Diode	1SS356	
D131	XD0482	Diode	1SS405(TPH3,F)	
D132	XD0272	Diode	1SS356	
D133	XD0272	Diode	1SS356	
D134	XD0482	Diode	1SS405(TPH3,F)	
D135	XD0433	Diode	RB715WTL	

Ref. No.	Parts No.	Description	Parts Name	Version
D136	XD0231	Diode	DAP202U	
D137	XD0272	Diode	1SS356	
D138	XD0272	Diode	1SS356	
D139	XD0230	Diode	DAN202U	
D140	XD0230	Diode	DAN202U	
D141	XD0482	Diode	1SS405(TPH3,F)	
D142	XD0272	Diode	1SS356	
D143	XD0272	Diode	1SS356	
D144	XD0482	Diode	1SS405(TPH3,F)	
D145	XD0254	Diode	1SS355	
D146	XD0230	Diode	DAN202U	
D147	XD0272	Diode	1SS356	
D148	XD0272	Diode	1SS356	
D149	XD0272	Diode	1SS356	
D150	XD0272	Diode	1SS356	
D151	XD0230	Diode	DAN202U	
D152	XD0254	Diode	1SS355	
D153	XD0130	Diode	DA204U	
D154	XD0254	Diode	1SS355	
D155	XD0482	Diode	1SS405(TPH3,F)	
D156	XD0231	Diode	DAP202U	
D157	XD0254	Diode	1SS355	
D158	XD0230	Diode	DAN202U	
D159	XD0230	Diode	DAN202U	
D160	XD0231	Diode	DAP202U	
D161	XD0254	Diode	1SS355	
D162	XD0391	Diode	CRG01(TE85L)	
D163	XD0231	Diode	DAP202U	
D164	XD0254	Diode	1SS355	
D165	XD0388	Diode	UDZSTE-17 6.2B	
D166	XD0254	Diode	1SS355	
D167	XD0254	Diode	1SS355	
D168	XD0254	Diode	1SS355	
D169	XD0231	Diode	DAP202U	
D170	XD0231	Diode	DAP202U	
D171	XD0231	Diode	DAP202U	
D172	XD0230	Diode	DAN202U	
D173	XD0254	Diode	1SS355	
D174	XD0231	Diode	DAP202U	
D175	XD0254	Diode	1SS355	
D176	XD0254	Diode	1SS355	
D177	XD0231	Diode	DAP202U	
D178	XD0254	Diode	1SS355	
D179	XD0254	Diode	1SS355	
D180	XD0231	Diode	DAP202U	
D181	XD0254	Diode	1SS355	
D182	XD0254	Diode	1SS355	
D183	XD0230	Diode	DAN202U	
D184	XD0231	Diode	DAP202U	
D185	XD0230	Diode	DAN202U	
D186	XD0254	Diode	1SS355	
D187	XD0482	Diode	1SS405(TPH3,F)	
D188	XD0231	Diode	DAP202U	
D189	XD0482	Diode	1SS405(TPH3,F)	
D190	XD0254	Diode	1SS355	
D601	XD0254	Diode	1SS355	
D602	XD0300	Diode	1SV262TPH2	
D604	XD0451	Diode	015AZ3.0-X(TPL3,F)	
D605	XD0300	Diode	1SV262TPH2	
FB101	QB0070	Ferrite Bead	BL02RN2R1M2B	
FL101	XC0012	Filter	CERAMIC CFJ455K8	
FL102	XC0011	Filter	CERAMIC CFJ455K5	
FL103	XC0036	Filter	ALFYM455G	
IC101	XA1442	CPU	R5F2L3ACANFP#U1	
IC102	XA1120	IC	S80845CLNB-B66-T2G	
IC103	XA1401	IC	R1EX24256ASAS0A#S0	
IC104	XA0995	IC	NJM2594V TE1	
IC105	XA0995	IC	NJM2594V TE1	
IC106	XA1106	IC	LM2902PWR	
IC107	XA0236	IC	BU4052BCF-E2	
IC108	XA0115	IC	TC4S66F	
IC109	XA0115	IC	TC4S66F	
IC110	XA0742	IC	NJM3357M-TE1	
IC111	XA1103	IC	LM2904PWR	
IC112	XA0410	IC	LA4425A	
IC113	XA0097	IC	NJM4558M	
IC114	XA1402	IC	M61545AFP#DF0R	
IC115	XA0102	IC	NJM7808FA	
IC116	XA0812	IC	NJM7805FA	

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Ref. No.	Parts No.	Description	Parts Name	Version
IC117	XA0299	IC	BU4001BF-E2	
IC118	XA1106	IC	LM2902PWR	
IC119	XA1106	IC	LM2902PWR	
IC120	XA0299	IC	BU4001BF-E2	
IC121	XA0332	IC	TA75S01F(TE85L)	
IC601	XA1404	IC	NJM2068V-TE1	
IC602	XA1398	IC	XC9504B092AR	
IC603	XA1399	IC	AD9833BRMZ-REEL7	
IC604	XA1399	IC	AD9833BRMZ-REEL7	
IC605	XA0115	IC	TC4S66F	
IC606	XA1010	IC	MB15A01PFV1-G-BND-EF	
IC607	XA0459	IC	TC74HC74AF(EL)	
IC608	XA0968	IC	UPC2710TB-T1	
IC609	XA1396	IC	TC4SU11F(TE85L,F)	
IC610	XA1397	IC	TC74VHC393FT(EL,K)	
IC611	XA1001	IC	TC74HC390AF	
JK101	UJ0032	Jack	HSJ1332-01-040	
JK102	UJ0030	Jack	JPJ2545-01-510	
JK103	UJ0030	Jack	JPJ2545-01-510	
L101	QC0078	Chip Inductor	3225 22 UH	
L102	QC0078	Chip Inductor	3225 22 UH	
L103	QR0017	Transformer	RF TRANSF.	
L104	QA0108	Coil	#A638AN-0562R=P3	
L105	QA0107	Coil	#A638AN-0561R=P3	
L106	QC0288	Chip Inductor	2520 1.0 UH	
L107	QC0044	Chip Inductor	3225 2.7 UH	
L108	QC0126	Chip Inductor	3225 .22 UH	
L109	QC0127	Chip Inductor	3225 .27 UH	
L110	QR0017	Transformer	RF TRANSF.	
L111	QA0107	Coil	#A638AN-0561R=P3	
L112	QA0119	Coil	##613AN-0228N=P3	
L113	QA0107	Coil	#A638AN-0561R=P3	
L114	QR0017	Transformer	RF TRANSF.	
L115	QR0017	Transformer	RF TRANSF.	
L116	QA0107	Coil	#A638AN-0561R=P3	
L117	QR0017	Transformer	RF TRANSF.	
L118	QC0079	Chip Inductor	3225 27 UH	
L119	QC0078	Chip Inductor	3225 22 UH	
L120	QA0119	Coil	##613AN-0228N=P3	
L121	QC0493	Chip Inductor	LQH4N471K04	
L122	QC0074	Chip Inductor	3225 8.2 UH	
L123	QC0072	Chip Inductor	3225 5.6 UH	
L124	QC0046	Chip Inductor	3225 3.9 UH	
L125	QC0046	Chip Inductor	3225 3.9 UH	
L126	QA0119	Coil	##613AN-0228N=P3	
L127	QA0119	Coil	##613AN-0228N=P3	
L128	QA0119	Coil	##613AN-0228N=P3	
L129	QC0497	Chip Inductor	LQH4N102K04	
L130	QC0043	Chip Inductor	3225 2.2 UH	
L131	QC0043	Chip Inductor	3225 2.2 UH	
L132	QC0086	Chip Inductor	3225 100 UH	
L133	QC0044	Chip Inductor	3225 2.7 UH	
L134	QC0044	Chip Inductor	3225 2.7 UH	
L135	QC0047	Chip Inductor	3225 4.7 UH	
L136	QC0062	Chip Inductor	3225 39 NH	
L137	QC0041	Chip Inductor	3225 1.5 UH	
L138	QC0041	Chip Inductor	3225 1.5 UH	
L139	QC0123	Chip Inductor	3225 .12 UH	
L140	QC0086	Chip Inductor	3225 100 UH	
L141	QC0041	Chip Inductor	3225 1.5 UH	
L142	QC0041	Chip Inductor	3225 1.5 UH	
L143	QA0107	Coil	#A638AN-0561R=P3	
L144	QC0288	Chip Inductor	2520 1.0 UH	
L145	QC0288	Chip Inductor	2520 1.0 UH	
L146	QC0124	Chip Inductor	3225 .15 UH	
L147	QC0067	Chip Inductor	3225 .10 UH	
L148	QR0017	Transformer	RF TRANSF.	
L149	QA0108	Coil	#A638AN-0562R=P3	
L150	QA0107	Coil	#A638AN-0561R=P3	
L151	QC0288	Chip Inductor	2520 1.0 UH	
L152	QC0086	Chip Inductor	3225 100 UH	
L153	QC0133	Chip Inductor	3225 .82 UH	
L154	QC0133	Chip Inductor	3225 .82 UH	
L155	QC0493	Chip Inductor	LQH4N471K04	
L156	QA0107	Coil	#A638AN-0561R=P3	
L157	QC0048	Chip Inductor	3225 10 UH	
L158	QC0072	Chip Inductor	3225 5.6 UH	
L159	QC0132	Chip Inductor	3225 .68 UH	
L160	QC0132	Chip Inductor	3225 .68 UH	

Ref. No.	Parts No.	Description	Parts Name	Version
L161	QR0017	Transformer	RF TRANSF.	
L162	QC0493	Chip Inductor	LQH4N471K04	
L163	QC0086	Chip Inductor	3225 100 UH	
L164	QC0131	Chip Inductor	3225 .56 UH	
L165	QC0131	Chip Inductor	3225 .56 UH	
L166	QC0493	Chip Inductor	LQH4N471K04	
L167	QC0130	Chip Inductor	3225 .47 UH	
L168	QC0130	Chip Inductor	3225 .47 UH	
L169	QC0086	Chip Inductor	3225 100 UH	
L170	QC0130	Chip Inductor	3225 .47 UH	
L171	QC0130	Chip Inductor	3225 .47 UH	
L172	QC0128	Chip Inductor	3225 .33 UH	
L173	QC0128	Chip Inductor	3225 .33 UH	
L174	QC0086	Chip Inductor	3225 100 UH	
L175	QC0128	Chip Inductor	3225 .33 UH	
L176	QC0128	Chip Inductor	3225 .33 UH	
L177	QC0717	Chip Inductor	NLV32T-471JPF	
L178	QC0086	Chip Inductor	3225 100 UH	
L179	QA0119	Coil	##613AN-0228N=P3	
L180	QA0119	Coil	##613AN-0228N=P3	
L601	QC0538	Chip Inductor	LQN21AR10J04	
L602	QC0047	Chip Inductor	3225 4.7 UH	
L603	QA0132		657AN-1372BKF=P3	
L604	QC0080	Chip Inductor	3225 33 UH	
L605	QC0076	Chip Inductor	3225 15 UH	
L606	QC0596	Chip Inductor	LQW1608AR10J00T1	
L607	QA0110	Coil	#E558HN-100101	
L608	QC0047	Chip Inductor	3225 4.7 UH	
L609	QC0048	Chip Inductor	3225 10 UH	
L610	QC0064	Chip Inductor	3225 56 NH	
L611	QC0717	Chip Inductor	NLV32T-471JPF	
L612	QC0048	Chip Inductor	3225 10 UH	
L613	QC0123	Chip Inductor	3225 .12 UH	
L614	QC0088	Chip Inductor	3225 150 UH	
L615	QC0048	Chip Inductor	3225 10 UH	
L616	QC0083	Chip Inductor	3225 56 UH	
L617	QC0083	Chip Inductor	3225 56 UH	
L618	QC0085	Chip Inductor	3225 82 UH	
Q101	XT0229	Transistor	2SB1412	
Q102	XU0210	Transistor	RN1107FV	
Q103	XE0053	FET	3SK293TE85L	
Q104	XE0053	FET	3SK293TE85L	
Q105	XT0048	Transistor	2SC3357RE	
Q106	XE0053	FET	3SK293TE85L	
Q107	XU0210	Transistor	RN1107FV	
Q108	XE0053	FET	3SK293TE85L	
Q109	XU0236	Transistor	EMD9T2R	
Q110	XE0053	FET	3SK293TE85L	
Q111	XU0210	Transistor	RN1107FV	
Q112	XU0210	Transistor	RN1107FV	
Q113	XT0210	Transistor	2SC6026MFV-GR	
Q114	XT0210	Transistor	2SC6026MFV-GR	
Q115	XT0210	Transistor	2SC6026MFV-GR	
Q116	XT0210	Transistor	2SC6026MFV-GR	
Q117	XU0210	Transistor	RN1107FV	
Q118	XE0053	FET	3SK293TE85L	
Q119	XU0210	Transistor	RN1107FV	
Q120	XU0210	Transistor	RN1107FV	
Q121	XU0210	Transistor	RN1107FV	
Q122	XU0210	Transistor	RN1107FV	
Q123	XT0048	Transistor	2SC3357RE	
Q124	XE0053	FET	3SK293TE85L	
Q125	XE0066	FET	2SK2539-TB-E	
Q126	XU0210	Transistor	RN1107FV	
Q127	XE0066	FET	2SK2539-TB-E	
Q128	XE0066	FET	2SK2539-TB-E	
Q129	XU0210	Transistor	RN1107FV	
Q130	XE0066	FET	2SK2539-TB-E	
Q131	XU0210	Transistor	RN1107FV	
Q132	XU0210	Transistor	RN1107FV	
Q133	XU0210	Transistor	RN1107FV	
Q134	XT0210	Transistor	2SC6026MFV-GR	
Q135	XU0236	Transistor	EMD9T2R	
Q136	XU0236	Transistor	EMD9T2R	
Q137	XT0210	Transistor	2SC6026MFV-GR	
Q138	XE0053	FET	3SK293TE85L	
Q139	XE0053	FET	3SK293TE85L	
Q140	XT0210	Transistor	2SC6026MFV-GR	
Q141	XT0210	Transistor	2SC6026MFV-GR	

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Ref. No.	Parts No.	Description	Parts Name	Version
Q142	XU0211	Transistor	RN2107FV	
Q143	XT0210	Transistor	2SC6026MFV-GR	
Q144	XU0219	Transistor	RN1104FV	
Q145	XU0210	Transistor	RN1107FV	
Q146	XT0210	Transistor	2SC6026MFV-GR	
Q147	XT0127	Transistor	2SC3419-Y	
Q148	XU0210	Transistor	RN1107FV	
Q149	XT0136	Transistor	2SD1664 T101 Q	
Q150	XT0210	Transistor	2SC6026MFV-GR	
Q151	XU0210	Transistor	RN1107FV	
Q152	XT0136	Transistor	2SD1664 T101 Q	
Q153	XU0210	Transistor	RN1107FV	
Q154	XT0094	Transistor	2SA1576A	
Q155	XU0210	Transistor	RN1107FV	
Q156	XU0210	Transistor	RN1107FV	
Q157	XT0210	Transistor	2SC6026MFV-GR	
Q158	XU0210	Transistor	RN1107FV	
Q159	XU0210	Transistor	RN1107FV	
Q160	XU0210	Transistor	RN1107FV	
Q161	XU0210	Transistor	RN1107FV	
Q162	XT0094	Transistor	2SA1576A	
Q163	XU0210	Transistor	RN1107FV	
Q164	XT0210	Transistor	2SC6026MFV-GR	
Q165	XU0210	Transistor	RN1107FV	
Q166	XU0210	Transistor	RN1107FV	
Q167	XU0236	Transistor	EMD9T2R	
Q168	XU0210	Transistor	RN1107FV	
Q169	XU0210	Transistor	RN1107FV	
Q170	XU0236	Transistor	EMD9T2R	
Q171	XU0236	Transistor	EMD9T2R	
Q172	XU0210	Transistor	RN1107FV	
Q173	XT0210	Transistor	2SC6026MFV-GR	
Q174	XU0211	Transistor	RN2107FV	
Q175	XU0210	Transistor	RN1107FV	
Q176	XU0236	Transistor	EMD9T2R	
Q177	XU0236	Transistor	EMD9T2R	
Q178	XT0210	Transistor	2SC6026MFV-GR	
Q179	XU0236	Transistor	EMD9T2R	
Q180	XT0210	Transistor	2SC6026MFV-GR	
Q181	XU0236	Transistor	EMD9T2R	
Q182	XU0236	Transistor	EMD9T2R	
Q183	XT0210	Transistor	2SC6026MFV-GR	
Q194	XU0210	Transistor	RN1107FV	
Q195	XT0210	Transistor	2SC6026MFV-GR	
Q601	XT0210	Transistor	2SC6026MFV-GR	
Q602	XT0178	Transistor	2SC4915-O(TE85L)	
Q603	XT0110	Transistor	2SA1036K	
Q604	XT0178	Transistor	2SC4915-O(TE85L)	
Q605	XE0066	FET	2SK2539-TB-E	
Q606	XT0178	Transistor	2SC4915-O(TE85L)	
Q607	XT0178	Transistor	2SC4915-O(TE85L)	
Q608	XT0178	Transistor	2SC4915-O(TE85L)	
Q609	XT0178	Transistor	2SC4915-O(TE85L)	
Q610	XT0178	Transistor	2SC4915-O(TE85L)	
Q611	XT0178	Transistor	2SC4915-O(TE85L)	
Q612	XU0219	Transistor	RN1104FV	
Q613	XT0224	Transistor	2SC4738F-GR(T5L,F)	
Q614	XT0178	Transistor	2SC4915-O(TE85L)	
Q615	XE0006	FET	2SK210GR	
Q616	XT0178	Transistor	2SC4915-O(TE85L)	
Q617	XT0224	Transistor	2SC4738F-GR(T5L,F)	
Q618	XU0210	Transistor	RN1107FV	
Q619	XT0094	Transistor	2SA1576A	
Q620	XT0178	Transistor	2SC4915-O(TE85L)	
R101	RK3558	Chip R	1005 1/16W 47K OHM J	
R102	RK3558	Chip R	1005 1/16W 47K OHM J	
R103	RK3550	Chip R	1005 1/16W 10K OHM J	
R104	RK3550	Chip R	1005 1/16W 10K OHM J	
R105	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R106	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R107	RK3562	Chip R	1005 1/16W 100K OHMJ	
R108	RK3550	Chip R	1005 1/16W 10K OHM J	
R109	RK3562	Chip R	1005 1/16W 100K OHMJ	
R110	RK3550	Chip R	1005 1/16W 10K OHM J	
R111	RK3550	Chip R	1005 1/16W 10K OHM J	
R112	RK3562	Chip R	1005 1/16W 100K OHMJ	
R113	RK3562	Chip R	1005 1/16W 100K OHMJ	
R114	RK3562	Chip R	1005 1/16W 100K OHMJ	
R115	RK3562	Chip R	1005 1/16W 100K OHMJ	

Ref. No.	Parts No.	Description	Parts Name	Version
R116	RK3562	Chip R	1005 1/16W 100K OHMJ	
R117	RK3562	Chip R	1005 1/16W 100K OHMJ	
R118	RK3562	Chip R	1005 1/16W 100K OHMJ	
R119	RK3562	Chip R	1005 1/16W 100K OHMJ	
R120	RK3038	Chip R	1608 1/10W 1.0KOHM J	
R121	RK3038	Chip R	1608 1/10W 1.0KOHM J	
R122	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R123	RK3550	Chip R	1005 1/16W 10K OHM J	
R124	RK3562	Chip R	1005 1/16W 100K OHMJ	
R125	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R126	RK3050	Chip R	1608 1/10W 10K OHM J	
R127	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R128	RK3566	Chip R	1005 1/16W 220K OHMJ	
R129	RK3534	Chip R	1005 1/16W 470 OHM J	
R130	RK3032	Chip R	1608 1/10W 330 OHM J	
R131	RK3550	Chip R	1005 1/16W 10K OHM J	
R132	RK3558	Chip R	1005 1/16W 47K OHM J	
R133	RK3501	Chip R	1005 1/16W 0 OHM J	
R134	RK3530	Chip R	1005 1/16W 220 OHM J	
R135	RK3531	Chip R	1005 1/16W 270 OHM J	
R136	RK3566	Chip R	1005 1/16W 220K OHMJ	
R137	RK3526	Chip R	1005 1/16W 100 OHM J	
R138	RK3018	Chip R	1608 1/10W 22 OHM J	
R139	RK3526	Chip R	1005 1/16W 100 OHM J	
R140	RK3518	Chip R	1005 1/16W 22 OHM J	
R141	RK3530	Chip R	1005 1/16W 220 OHM J	
R142	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R143	RK3558	Chip R	1005 1/16W 47K OHM J	
R144	RK3536	Chip R	1005 1/16W 680 OHM J	
R145	RK3550	Chip R	1005 1/16W 10K OHM J	
R146	RK3526	Chip R	1005 1/16W 100 OHM J	
R147	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R148	RK3562	Chip R	1005 1/16W 100K OHMJ	
R149	RK3526	Chip R	1005 1/16W 100 OHM J	
R150	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R151	RK3550	Chip R	1005 1/16W 10K OHM J	
R152	RK3526	Chip R	1005 1/16W 100 OHM J	
R153	RK3026	Chip R	1608 1/10W 100 OHM J	
R154	RK3518	Chip R	1005 1/16W 22 OHM J	
R155	RK3562	Chip R	1005 1/16W 100K OHMJ	
R156	RK3560	Chip R	1005 1/16W 68K OHM J	
R157	RK3526	Chip R	1005 1/16W 100 OHM J	
R158	RK3558	Chip R	1005 1/16W 47K OHM J	
R159	RK3560	Chip R	1005 1/16W 68K OHM J	
R160	RK3534	Chip R	1005 1/16W 470 OHM J	
R161	RK3561	Chip R	1005 1/16W 82K OHM J	
R162	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R163	RK3534	Chip R	1005 1/16W 470 OHM J	
R164	RK3564	Chip R	1005 1/16W 150K OHMJ	
R165	RK3515	Chip R	1005 1/16W 12 OHM J	
R166	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R167	RK3530	Chip R	1005 1/16W 220 OHM J	
R168	RK3570	Chip R	1005 1/16W 470K OHMJ	
R169	RK3533	Chip R	1005 1/16W 390 OHM J	
R170	RK3533	Chip R	1005 1/16W 390 OHM J	
R171	RK3518	Chip R	1005 1/16W 22 OHM J	
R172	RK3534	Chip R	1005 1/16W 470 OHM J	
R173	RK3562	Chip R	1005 1/16W 100K OHMJ	
R174	RK3526	Chip R	1005 1/16W 100 OHM J	
R175	RK3023	Chip R	1608 1/10W 56 OHM J	
R176	RK3015	Chip R	1608 1/10W 12 OHM J	
R177	RK3562	Chip R	1005 1/16W 100K OHMJ	
R178	RK3550	Chip R	1005 1/16W 10K OHM J	
R179	RK3526	Chip R	1005 1/16W 100 OHM J	
R180	RK3031	Chip R	1608 1/10W 270 OHM J	
R181	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R182	RK3561	Chip R	1005 1/16W 82K OHM J	
R183	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R184	RK3534	Chip R	1005 1/16W 470 OHM J	
R185	RK3550	Chip R	1005 1/16W 10K OHM J	
R186	RK3031	Chip R	1608 1/10W 270 OHM J	
R187	RK3553	Chip R	1005 1/16W 18K OHM J	
R188	RK3028	Chip R	1608 1/10W 150 OHM J	
R189	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R190	RK3554	Chip R	1005 1/16W 22K OHM J	
R191	RK3558	Chip R	1005 1/16W 47K OHM J	
R192	RK3552	Chip R	1005 1/16W 15K OHM J	
R193	RK3562	Chip R	1005 1/16W 100K OHMJ	
R194	RK3526	Chip R	1005 1/16W 100 OHM J	

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Ref. No.	Parts No.	Description	Parts Name	Version
R195	RK3562	Chip R	1005 1/16W 100K OHMJ	
R196	RK3526	Chip R	1005 1/16W 100 OHM J	
R197	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R198	RK3550	Chip R	1005 1/16W 10K OHM J	
R199	RK3534	Chip R	1005 1/16W 470 OHM J	
R200	RK3550	Chip R	1005 1/16W 10K OHM J	
R201	RK3562	Chip R	1005 1/16W 100K OHMJ	
R202	RK3532	Chip R	1005 1/16W 330 OHM J	
R203	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R204	RK3554	Chip R	1005 1/16W 22K OHM J	
R205	RK3526	Chip R	1005 1/16W 100 OHM J	
R206	RK3522	Chip R	1005 1/16W 47 OHM J	
R207	RK3578	Chip R	1005 1/16W 2.2M OHMJ	
R208	RK0008	Chip R	2125 1/8W 33 OHM J	
R209	RK3028	Chip R	1608 1/10W 150 OHM J	
R210	RK3028	Chip R	1608 1/10W 150 OHM J	
R211	RK3522	Chip R	1005 1/16W 47 OHM J	
R212	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R213	RK3550	Chip R	1005 1/16W 10K OHM J	
R214	RK3540	Chip R	1005 1/16W 1.5K OHMJ	
R215	RK3530	Chip R	1005 1/16W 220 OHM J	
R216	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R217	RK3544	Chip R	1005 1/16W 3.3K OHMJ	
R218	RK3015	Chip R	1608 1/10W 12 OHM J	
R219	RK3028	Chip R	1608 1/10W 150 OHM J	
R220	RK3028	Chip R	1608 1/10W 150 OHM J	
R221	RK3501	Chip R	1005 1/16W 0 OHM J	
R222	RK3535	Chip R	1005 1/16W 560 OHM J	
R223	RK3526	Chip R	1005 1/16W 100 OHM J	
R224	RK3562	Chip R	1005 1/16W 100K OHMJ	
R225	RK3543	Chip R	1005 1/16W 2.7K OHMJ	
R226	RK3544	Chip R	1005 1/16W 3.3K OHMJ	
R227	RK3528	Chip R	1005 1/16W 150 OHM J	
R228	RK3528	Chip R	1005 1/16W 150 OHM J	
R229	RK3536	Chip R	1005 1/16W 680 OHM J	
R230	RK3554	Chip R	1005 1/16W 22K OHM J	
R231	RK3561	Chip R	1005 1/16W 82K OHM J	
R232	RK3526	Chip R	1005 1/16W 100 OHM J	
R233	RK3550	Chip R	1005 1/16W 10K OHM J	
R234	RK3535	Chip R	1005 1/16W 560 OHM J	
R235	RK3534	Chip R	1005 1/16W 470 OHM J	
R236	RK3028	Chip R	1608 1/10W 150 OHM J	
R237	RK3522	Chip R	1005 1/16W 47 OHM J	
R238	RK3028	Chip R	1608 1/10W 150 OHM J	
R239	RK3521	Chip R	1005 1/16W 39 OHM J	
R240	RK3531	Chip R	1005 1/16W 270 OHM J	
R241	RK3028	Chip R	1608 1/10W 150 OHM J	
R242	RK3028	Chip R	1608 1/10W 150 OHM J	
R243	RK3518	Chip R	1005 1/16W 22 OHM J	
R244	RK3028	Chip R	1608 1/10W 150 OHM J	
R245	RK3028	Chip R	1608 1/10W 150 OHM J	
R246	RK3028	Chip R	1608 1/10W 150 OHM J	
R247	RK3028	Chip R	1608 1/10W 150 OHM J	
R248	RK3032	Chip R	1608 1/10W 330 OHM J	
R249	RK3031	Chip R	1608 1/10W 270 OHM J	
R250	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R251	RK3550	Chip R	1005 1/16W 10K OHM J	
R252	RK3530	Chip R	1005 1/16W 220 OHM J	
R253	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R254	RK3526	Chip R	1005 1/16W 100 OHM J	
R255	RK3544	Chip R	1005 1/16W 3.3K OHMJ	
R256	RK3550	Chip R	1005 1/16W 10K OHM J	
R257	RK3551	Chip R	1005 1/16W 12K OHM J	
R258	RK3568	Chip R	1005 1/16W 330K OHMJ	
R259	RK3566	Chip R	1005 1/16W 220K OHMJ	
R260	RK3558	Chip R	1005 1/16W 47K OHM J	
R261	RK3558	Chip R	1005 1/16W 47K OHM J	
R262	RK3558	Chip R	1005 1/16W 47K OHM J	
R263	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R264	RK3566	Chip R	1005 1/16W 220K OHMJ	
R265	RK3501	Chip R	1005 1/16W 0 OHM J	
R266	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R267	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R268	RK3550	Chip R	1005 1/16W 10K OHM J	
R269	RK3550	Chip R	1005 1/16W 10K OHM J	
R270	RK3562	Chip R	1005 1/16W 100K OHMJ	
R271	RK3544	Chip R	1005 1/16W 3.3K OHMJ	
R272	RK3548	Chip R	1005 1/16W 6.8K OHMJ	
R273	RK3552	Chip R	1005 1/16W 15K OHM J	

Ref. No.	Parts No.	Description	Parts Name	Version
R274	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R275	RK3524	Chip R	1005 1/16W 68 OHM J	
R276	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R277	RK3526	Chip R	1005 1/16W 100 OHM J	
R278	RK3545	Chip R	1005 1/16W 3.9K OHMJ	
R279	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R280	RK3570	Chip R	1005 1/16W 470K OHMJ	
R281	NC			
R282	NC			
R283	RK3550	Chip R	1005 1/16W 10K OHM J	
R284	RK3550	Chip R	1005 1/16W 10K OHM J	
R285	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R286	RK3532	Chip R	1005 1/16W 330 OHM J	
R287	RK3526	Chip R	1005 1/16W 100 OHM J	
R288	RK3559	Chip R	1005 1/16W 56K OHM J	
R289	RK3570	Chip R	1005 1/16W 470K OHMJ	
R290	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R291	RK3553	Chip R	1005 1/16W 18K OHM J	
R292	RK3548	Chip R	1005 1/16W 6.8K OHMJ	
R293	RK3526	Chip R	1005 1/16W 100 OHM J	
R294	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R295	RK3550	Chip R	1005 1/16W 10K OHM J	
R296	RK3551	Chip R	1005 1/16W 12K OHM J	
R297	RK3551	Chip R	1005 1/16W 12K OHM J	
R298	RK3550	Chip R	1005 1/16W 10K OHM J	
R299	RK3541	Chip R	1005 1/16W 1.8K OHMJ	
R300	RK3552	Chip R	1005 1/16W 15K OHM J	
R301	RK3567	Chip R	1005 1/16W 270K OHMJ	
R302	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R303	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R304	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R305	RK3530	Chip R	1005 1/16W 220 OHM J	
R306	RK3550	Chip R	1005 1/16W 10K OHM J	
R307	RK3562	Chip R	1005 1/16W 100K OHMJ	
R308	RK3554	Chip R	1005 1/16W 22K OHM J	
R309	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R310	RK3562	Chip R	1005 1/16W 100K OHMJ	
R311	RK3558	Chip R	1005 1/16W 47K OHM J	
R312	RK3564	Chip R	1005 1/16W 150K OHMJ	
R313	RK3530	Chip R	1005 1/16W 220 OHM J	
R314	RK3571	Chip R	1005 1/16W 560K OHMJ	
R315	RK3562	Chip R	1005 1/16W 100K OHMJ	
R316	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R318	RK3562	Chip R	1005 1/16W 100K OHMJ	
R319	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R320	RK3501	Chip R	1005 1/16W 0 OHM J	
R321	RK3549	Chip R	1005 1/16W 8.2K OHMJ	
R322	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R323	RK3558	Chip R	1005 1/16W 47K OHM J	
R324	RK3534	Chip R	1005 1/16W 470 OHM J	
R325	RK3526	Chip R	1005 1/16W 100 OHM J	
R326	RK3534	Chip R	1005 1/16W 470 OHM J	
R327	RK3562	Chip R	1005 1/16W 100K OHMJ	
R328	RK3534	Chip R	1005 1/16W 470 OHM J	
R329	RK3550	Chip R	1005 1/16W 10K OHM J	
R330	RK3526	Chip R	1005 1/16W 100 OHM J	
R331	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R332	RK3558	Chip R	1005 1/16W 47K OHM J	
R333	RK3544	Chip R	1005 1/16W 3.3K OHMJ	
R334	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R335	RK3558	Chip R	1005 1/16W 47K OHM J	
R336	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R337	RK3530	Chip R	1005 1/16W 220 OHM J	
R338	RK3558	Chip R	1005 1/16W 47K OHM J	
R339	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R340	RK3530	Chip R	1005 1/16W 220 OHM J	
R341	RK3550	Chip R	1005 1/16W 10K OHM J	
R342	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R343	RK3501	Chip R	1005 1/16W 0 OHM J	
R344	RK3526	Chip R	1005 1/16W 100 OHM J	
R345	RK3534	Chip R	1005 1/16W 470 OHM J	
R346	RK3544	Chip R	1005 1/16W 3.3K OHMJ	
R347	RK3550	Chip R	1005 1/16W 10K OHM J	
R348	RK3530	Chip R	1005 1/16W 220 OHM J	
R349	RK3558	Chip R	1005 1/16W 47K OHM J	
R350	RK3550	Chip R	1005 1/16W 10K OHM J	
R351	RK3554	Chip R	1005 1/16W 22K OHM J	
R352	RK3558	Chip R	1005 1/16W 47K OHM J	
R353	RK3550	Chip R	1005 1/16W 10K OHM J	

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Ref. No.	Parts No.	Description	Parts Name	Version
R354	RK3547	Chip R	1005 1/16W 5.6K OHMJ	
R355	RK3552	Chip R	1005 1/16W 15K OHM J	
R356	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R357	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R358	RK3530	Chip R	1005 1/16W 220 OHM J	
R359	RK3540	Chip R	1005 1/16W 1.5K OHMJ	
R360	RK3550	Chip R	1005 1/16W 10K OHM J	
R361	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R362	RK3551	Chip R	1005 1/16W 12K OHM J	
R363	RK3554	Chip R	1005 1/16W 22K OHM J	
R364	RK3544	Chip R	1005 1/16W 3.3K OHMJ	
R365	RK3530	Chip R	1005 1/16W 220 OHM J	
R366	RK3550	Chip R	1005 1/16W 10K OHM J	
R367	RK3550	Chip R	1005 1/16W 10K OHM J	
R368	RK3573	Chip R	1005 1/16W 820K OHMJ	
R369	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R370	RK3554	Chip R	1005 1/16W 22K OHM J	
R371	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R372	RK3560	Chip R	1005 1/16W 68K OHM J	
R373	RK3526	Chip R	1005 1/16W 100 OHM J	
R374	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R375	RK3534	Chip R	1005 1/16W 470 OHM J	
R376	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R377	RK3568	Chip R	1005 1/16W 330K OHMJ	
R378	RK3550	Chip R	1005 1/16W 10K OHM J	
R379	RK3560	Chip R	1005 1/16W 68K OHM J	
R380	RK3557	Chip R	1005 1/16W 39K OHM J	
R381	RK3566	Chip R	1005 1/16W 220K OHMJ	
R382	RK3501	Chip R	1005 1/16W 0 OHM J	
R383	RK3548	Chip R	1005 1/16W 6.8K OHMJ	
R384	RK3557	Chip R	1005 1/16W 39K OHM J	
R385	RK3554	Chip R	1005 1/16W 22K OHM J	
R386	RK3557	Chip R	1005 1/16W 39K OHM J	
R387	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R388	RK3030	Chip R	1608 1/10W 220 OHM J	
R389	RK3030	Chip R	1608 1/10W 220 OHM J	
R390	RK3562	Chip R	1005 1/16W 100K OHMJ	
R391	RK3550	Chip R	1005 1/16W 10K OHM J	
R392	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R393	NC			
R394	RK3551	Chip R	1005 1/16W 12K OHM J	
R395	RK3562	Chip R	1005 1/16W 100K OHMJ	
R396	RK3562	Chip R	1005 1/16W 100K OHMJ	
R397	RK3026	Chip R	1608 1/10W 100 OHM J	
R398	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R399	RK3562	Chip R	1005 1/16W 100K OHMJ	
R400	RK4082	Chip R	3225 1/4W 4.7 OHM J	
R401	RK3568	Chip R	1005 1/16W 330K OHMJ	
R402	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R403	RK3558	Chip R	1005 1/16W 47K OHM J	
R404	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R405	RK3553	Chip R	1005 1/16W 18K OHM J	
R406	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R407	RK3549	Chip R	1005 1/16W 8.2K OHMJ	
R408	RK3570	Chip R	1005 1/16W 470K OHMJ	
R409	RK3575	Chip R	1005 1/16W 1.2M OHMJ	
R410	RK0035	Chip R	2125 1/8W 1 K OHM J	
R411	RK3548	Chip R	1005 1/16W 6.8K OHMJ	
R412	RK3558	Chip R	1005 1/16W 47K OHM J	
R413	RK3570	Chip R	1005 1/16W 470K OHMJ	
R414	RK3556	Chip R	1005 1/16W 33K OHM J	
R415	RK3556	Chip R	1005 1/16W 33K OHM J	
R416	RK3549	Chip R	1005 1/16W 8.2K OHMJ	
R417	RK0005	Chip R	2125 1/8W 22 OHM J	
R418	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R419	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R420	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R421	RK3570	Chip R	1005 1/16W 470K OHMJ	
R422	RK3547	Chip R	1005 1/16W 5.6K OHMJ	
R423	RK3549	Chip R	1005 1/16W 8.2K OHMJ	
R424	RK3550	Chip R	1005 1/16W 10K OHM J	
R425	RK3562	Chip R	1005 1/16W 100K OHMJ	
R426	RK4082	Chip R	3225 1/4W 4.7 OHM J	
R427	RK3550	Chip R	1005 1/16W 10K OHM J	
R428	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R429	RK3532	Chip R	1005 1/16W 330 OHM J	
R430	RK3562	Chip R	1005 1/16W 100K OHMJ	
R431	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R432	RK0035	Chip R	2125 1/8W 1 K OHM J	

Ref. No.	Parts No.	Description	Parts Name	Version
R433	RK3534	Chip R	1005 1/16W 470 OHM J	
R434	RK3550	Chip R	1005 1/16W 10K OHM J	
R435	RK3530	Chip R	1005 1/16W 220 OHM J	
R436	RK3563	Chip R	1005 1/16W 120K OHMJ	
R437	RK3554	Chip R	1005 1/16W 22K OHM J	
R438	RK3568	Chip R	1005 1/16W 330K OHMJ	
R439	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R440	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R441	RK3560	Chip R	1005 1/16W 68K OHM J	
R442	RK3549	Chip R	1005 1/16W 8.2K OHMJ	
R443	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R444	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R445	RK3535	Chip R	1005 1/16W 560 OHM J	
R446	NC			
R447	NC			
R448	RK3564	Chip R	1005 1/16W 150K OHMJ	
R449	RK3567	Chip R	1005 1/16W 270K OHMJ	
R450	RK3554	Chip R	1005 1/16W 22K OHM J	
R451	RK3570	Chip R	1005 1/16W 470K OHMJ	
R452	RK3558	Chip R	1005 1/16W 47K OHM J	
R453	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R454	RK3562	Chip R	1005 1/16W 100K OHMJ	
R455	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R456	RK3550	Chip R	1005 1/16W 10K OHM J	
R457	RK3566	Chip R	1005 1/16W 220K OHMJ	
R458	RK3580	Chip R	1005 1/16W 3.3M OHMJ	
R459	RK3550	Chip R	1005 1/16W 10K OHM J	
R460	RK3570	Chip R	1005 1/16W 470K OHMJ	
R461	RK3522	Chip R	1005 1/16W 47 OHM J	
R462	RK3567	Chip R	1005 1/16W 270K OHMJ	
R463	RK3580	Chip R	1005 1/16W 3.3M OHMJ	
R464	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R465	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R466	RK3550	Chip R	1005 1/16W 10K OHM J	
R467	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R468	RK3548	Chip R	1005 1/16W 6.8K OHMJ	
R469	RK3558	Chip R	1005 1/16W 47K OHM J	
R470	RK3554	Chip R	1005 1/16W 22K OHM J	
R471	RK3550	Chip R	1005 1/16W 10K OHM J	
R472	RK3558	Chip R	1005 1/16W 47K OHM J	
R473	RK3558	Chip R	1005 1/16W 47K OHM J	
R474	RK3558	Chip R	1005 1/16W 47K OHM J	
R475	RK1018	Chip R	3216 1/8 W 100 OHM J	
R476	RK1018	Chip R	3216 1/8 W 100 OHM J	
R477	RK3554	Chip R	1005 1/16W 22K OHM J	
R478	RK1018	Chip R	3216 1/8 W 100 OHM J	
R479	RK3550	Chip R	1005 1/16W 10K OHM J	
R480	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R481	RK3534	Chip R	1005 1/16W 470 OHM J	
R482	RK3550	Chip R	1005 1/16W 10K OHM J	
R483	RK3554	Chip R	1005 1/16W 22K OHM J	
R484	RK3518	Chip R	1005 1/16W 22 OHM J	
R485	RK3558	Chip R	1005 1/16W 47K OHM J	
R486	RK3554	Chip R	1005 1/16W 22K OHM J	
R487	RK3554	Chip R	1005 1/16W 22K OHM J	
R488	RK3534	Chip R	1005 1/16W 470 OHM J	
R489	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R490	RK3526	Chip R	1005 1/16W 100 OHM J	
R491	RK3554	Chip R	1005 1/16W 22K OHM J	
R492	RK3574	Chip R	1005 1/16W 1.0M OHMJ	
R493	RK3554	Chip R	1005 1/16W 22K OHM J	
R494	RK3554	Chip R	1005 1/16W 22K OHM J	
R495	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R496	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R497	RK3557	Chip R	1005 1/16W 39K OHM J	
R498	RK3556	Chip R	1005 1/16W 33K OHM J	
R499	RK3550	Chip R	1005 1/16W 10K OHM J	
R500	RK3554	Chip R	1005 1/16W 22K OHM J	
R501	RK3558	Chip R	1005 1/16W 47K OHM J	
R502	RK3558	Chip R	1005 1/16W 47K OHM J	
R503	RK3557	Chip R	1005 1/16W 39K OHM J	
R504	RK3566	Chip R	1005 1/16W 220K OHMJ	
R505	RK3562	Chip R	1005 1/16W 100K OHMJ	
R506	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R507	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R508	RK3554	Chip R	1005 1/16W 22K OHM J	
R509	RK3554	Chip R	1005 1/16W 22K OHM J	
R510	RK3558	Chip R	1005 1/16W 47K OHM J	
R511	RK3555	Chip R	1005 1/16W 27K OHM J	

MAIN Unit

Ref. No.	Parts No.	Description	Parts Name	Version
R512	RK3562	Chip R	1005 1/16W 100K OHMJ	
R513	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R514	NC			
R515	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R516	RK3554	Chip R	1005 1/16W 22K OHM J	
R517	RK3558	Chip R	1005 1/16W 47K OHM J	
R518	RK3558	Chip R	1005 1/16W 47K OHM J	
R519	RK3560	Chip R	1005 1/16W 68K OHM J	
R520	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R521	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R522	RK3549	Chip R	1005 1/16W 8.2K OHMJ	
R523	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R524	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R525	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R526	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R527	RK3550	Chip R	1005 1/16W 10K OHM J	
R528	RK3501	Chip R	1005 1/16W 0 OHM J	
R529	RK3501	Chip R	1005 1/16W 0 OHM J	
R530	RK3550	Chip R	1005 1/16W 10K OHM J	
R531	RK3550	Chip R	1005 1/16W 10K OHM J	
R532	RK3550	Chip R	1005 1/16W 10K OHM J	
R533	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R534	RK3558	Chip R	1005 1/16W 47K OHM J	
R535	RK3534	Chip R	1005 1/16W 470 OHM J	
R536	RK3526	Chip R	1005 1/16W 100 OHM J	
R537	RK3552	Chip R	1005 1/16W 15K OHM J	
R538	RK3544	Chip R	1005 1/16W 3.3K OHMJ	
R539	RK3501	Chip R	1005 1/16W 0 OHM J	
R540	RK3554	Chip R	1005 1/16W 22K OHM J	
R541	RK3561	Chip R	1005 1/16W 82K OHM J	
R542	RK3543	Chip R	1005 1/16W 2.7K OHMJ	
R543	RK3550	Chip R	1005 1/16W 10K OHM J	
R601	RK3540	Chip R	1005 1/16W 1.5K OHMJ	
R602	RK3526	Chip R	1005 1/16W 100 OHM J	
R603	RK3534	Chip R	1005 1/16W 470 OHM J	
R604	RK3522	Chip R	1005 1/16W 47 OHM J	
R605	RK3526	Chip R	1005 1/16W 100 OHM J	
R606	RK3545	Chip R	1005 1/16W 3.9K OHMJ	
R607	RK3558	Chip R	1005 1/16W 47K OHM J	
R608	RK3558	Chip R	1005 1/16W 47K OHM J	
R609	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R610	RK3534	Chip R	1005 1/16W 470 OHM J	
R611	RK3550	Chip R	1005 1/16W 10K OHM J	
R612	RK3534	Chip R	1005 1/16W 470 OHM J	
R613	RK3540	Chip R	1005 1/16W 1.5K OHMJ	
R614	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R615	RK3526	Chip R	1005 1/16W 100 OHM J	
R616	RK3522	Chip R	1005 1/16W 47 OHM J	
R617	RK3519	Chip R	1005 1/16W 27 OHM J	
R618	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R619	RK3530	Chip R	1005 1/16W 220 OHM J	
R620	RK3522	Chip R	1005 1/16W 47 OHM J	
R621	RK3540	Chip R	1005 1/16W 1.5K OHMJ	
R622	RK3550	Chip R	1005 1/16W 10K OHM J	
R623	RK3549	Chip R	1005 1/16W 8.2K OHMJ	
R624	RK3535	Chip R	1005 1/16W 560 OHM J	
R625	RK3501	Chip R	1005 1/16W 0 OHM J	
R626	RK3552	Chip R	1005 1/16W 15K OHM J	
R627	RK3526	Chip R	1005 1/16W 100 OHM J	
R628	RK3558	Chip R	1005 1/16W 47K OHM J	
R629	RK3536	Chip R	1005 1/16W 680 OHM J	
R630	RK3562	Chip R	1005 1/16W 100K OHMJ	
R631	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R632	RK3548	Chip R	1005 1/16W 6.8K OHMJ	
R633	RK3558	Chip R	1005 1/16W 47K OHM J	
R634	RK3526	Chip R	1005 1/16W 100 OHM J	
R635	RK3558	Chip R	1005 1/16W 47K OHM J	
R636	RK3536	Chip R	1005 1/16W 680 OHM J	
R637	RK3522	Chip R	1005 1/16W 47 OHM J	
R638	RK3548	Chip R	1005 1/16W 6.8K OHMJ	
R639	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R640	RK3558	Chip R	1005 1/16W 47K OHM J	
R641	RK3526	Chip R	1005 1/16W 100 OHM J	
R642	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R643	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R644	RK3532	Chip R	1005 1/16W 330 OHM J	
R645	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R646	RK3550	Chip R	1005 1/16W 10K OHM J	
R647	RK3550	Chip R	1005 1/16W 10K OHM J	

Ref. No.	Parts No.	Description	Parts Name	Version
R648	RK3562	Chip R	1005 1/16W 100K OHMJ	
R649	NC			
R650	RK3530	Chip R	1005 1/16W 220 OHM J	
R651	RK3526	Chip R	1005 1/16W 100 OHM J	
R652	RK3550	Chip R	1005 1/16W 10K OHM J	
R654	RK3522	Chip R	1005 1/16W 47 OHM J	
R655	RK3554	Chip R	1005 1/16W 22K OHM J	
R656	RK3554	Chip R	1005 1/16W 22K OHM J	
R658	RK3550	Chip R	1005 1/16W 10K OHM J	
R659	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R663	RK3526	Chip R	1005 1/16W 100 OHM J	
R664	RK3530	Chip R	1005 1/16W 220 OHM J	
R665	RK3526	Chip R	1005 1/16W 100 OHM J	
R666	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R667	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R668	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R670	RK3554	Chip R	1005 1/16W 22K OHM J	
R672	RK3564	Chip R	1005 1/16W 150K OHMJ	
R673	RK3554	Chip R	1005 1/16W 22K OHM J	
R674	RK3562	Chip R	1005 1/16W 100K OHMJ	
R675	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R676	RK3568	Chip R	1005 1/16W 330K OHMJ	
R677	RK3558	Chip R	1005 1/16W 47K OHM J	
R678	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R679	RK3554	Chip R	1005 1/16W 22K OHM J	
R680	RK3526	Chip R	1005 1/16W 100 OHM J	
R681	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R682	RK3530	Chip R	1005 1/16W 220 OHM J	
R683	RK3526	Chip R	1005 1/16W 100 OHM J	
R684	RK3545	Chip R	1005 1/16W 3.9K OHMJ	
R685	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R686	RK3562	Chip R	1005 1/16W 100K OHMJ	
R687	RK3539	Chip R	1005 1/16W 1.2K OHMJ	
R688	RK3534	Chip R	1005 1/16W 470 OHM J	
R689	RK3550	Chip R	1005 1/16W 10K OHM J	
R690	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R691	RK3550	Chip R	1005 1/16W 10K OHM J	
R692	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R693	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R694	RK3526	Chip R	1005 1/16W 100 OHM J	
R695	RK3562	Chip R	1005 1/16W 100K OHMJ	
R696	RK3549	Chip R	1005 1/16W 8.2K OHMJ	
R697	RK3534	Chip R	1005 1/16W 470 OHM J	
R698	RK3522	Chip R	1005 1/16W 47 OHM J	
R699	RK3501	Chip R	1005 1/16W 0 OHM J	
R700	RK3531	Chip R	1005 1/16W 270 OHM J	
R701	RK3526	Chip R	1005 1/16W 100 OHM J	
R702	RK3550	Chip R	1005 1/16W 10K OHM J	
R703	RK3550	Chip R	1005 1/16W 10K OHM J	
R704	RK3550	Chip R	1005 1/16W 10K OHM J	
R705	RK3546	Chip R	1005 1/16W 4.7K OHMJ	
R706	RK3534	Chip R	1005 1/16W 470 OHM J	
R707	RK3554	Chip R	1005 1/16W 22K OHM J	
R708	RK3562	Chip R	1005 1/16W 100K OHMJ	
R709	RK3552	Chip R	1005 1/16W 15K OHM J	
R710	RK3552	Chip R	1005 1/16W 15K OHM J	
R711	RK3552	Chip R	1005 1/16W 15K OHM J	
R712	RK3552	Chip R	1005 1/16W 15K OHM J	
R713	RK3534	Chip R	1005 1/16W 470 OHM J	
R714	RK3538	Chip R	1005 1/16W 1.0K OHMJ	
R715	RK3542	Chip R	1005 1/16W 2.2K OHMJ	
R716	RK3533	Chip R	1005 1/16W 390 OHM J	
RL101	UL0006	Relay	AG201344	
SH601	TS0172	SHIELD CASE	VCO CASE DR620	
SH602	TS0172	SHIELD CASE	VCO CASE DR620	
SH603	TS0190	SHIELD CASE	SHIELD CASE DXSR8	
TH101	XS0036	Thermistor	NTCG164BH222KT	
TH102	XS0019	Thermistor	TBPSIR472K440H5Q	
VR101	RH0243	Trimmer R	PVA2A101A01R00	
VR102	RH0208	Trimmer R	PVA2A103A01R00	
VR103	RH0208	Trimmer R	PVA2A103A01R00	
VR104	RH0212	Trimmer R	PVA2A105A01R00	
VR105	RH0208	Trimmer R	PVA2A103A01R00	
VR106	RH0207	Trimmer R	PVA2A472A01R00	
VR107	NC			
VR108	NC			
VR109	RH0208	Trimmer R	PVA2A103A01R00	
VR110	RH0208	Trimmer R	PVA2A103A01R00	
VR111	RH0208	Trimmer R	PVA2A103A01R00	

MAIN Unit

Ref. No.	Parts No.	Description	Parts Name	Version
VR112	RH0210	Trimmer R	PVA2A473A01R00	
VR113	RH0257	Trimmer R	PVA2A224A01R00	
VR114	RH0259	Trimmer R	PVA2A474A01R00	
VR115	RH0250	Trimmer R	PVA2A222A01R00	
VR116	RH0208	Trimmer R	PVA2A103A01R00	
VR117	RH0208	Trimmer R	PVA2A103A01R00	
VR118	RH0250	Trimmer R	PVA2A222A01R00	
VR119	RH0211	Trimmer R	PVA2A104A01R00	
VR120	RH0209	Trimmer R	PVA2A223A01R00	
VR601	RH0211	Trimmer R	PVA2A104A01R00	
X101	XQ0228	Crystal	SMD49 8.000MHZ	
X102	XK0002	Discriminator	CDBM455C7	
X601	XQ0229	Crystal	TTS18VSE 16.777216M	
XF101	XF0084	MCF	MF71.7R 71.50000MHZ	
XF102	XF0084	MCF	MF71.7R 71.50000MHZ	
XF103	XF0084	MCF	MF71.7R 71.50000MHZ	
	TZ0066		ACC.FOR 2SC1971/01	
	UP0654	PCB	DXSR8 MAIN INTEG	

Mechanical Unit

Ref. No.	Parts No.	Description	Parts Name	Version
	AA0005	SCREW	PH M2.6+6 FE/N	
	AA0043	SCREW	PH M3+6 FE/N	
	AA0085	SCREW	TH M3+6FE/BZN	
	AB0032	SCREW	Pan S M4+10 FE Ni	
	AD0005	SCREW	PH/D M4+10 FE/ZN	
	AP0017	SCREW	PH P2.6+10 FE/B.ZN	
	AP0021	SCREW	PH P2.6+6 FE/3B.ZN	
	DD0019		BLIND SHEET B	
	DD0022		BLIND SHEET DXSR8	
	DD0023		BLIND SHEET DXSR8	
	DF0007		RUBBER FOOT XM601	
	DF0008		RUBBER FOOT L/XM601	
	DF0009		RUBBER FOOT R/XM601	
	DP0197		LCD PANEL DXSR8	
	ES0035A		57-8BC-35 2.0T	
	ET0014		FAN AD0812MB-C70	
	FG0481		KEYBOAD	
	FG0506		CUSHION	
	FG0518		KEYBOAD	
	FM0162		STAND XM669	
	FM0333		STEEL PIPE DXSR8	
	FM0347		GND. PLATE DXSR8	
	FP0151		REAR PANEL DR135	
	KB0130		REAR CASE DXSR8	
	KS0107		BOTTOM COVER DXSR8	
	KU0167		UPPER COVER DXSR8	
	KZ0229		FRONT ASSY DXSR8	
	NK0084		MAIN DIAL SR8	
	NK0085		KONB A SR8	
	NK0086		KNOB B SR8	
	QB0036		BP53RB120070060M	
	QB0069		HF70RH10X20X5	
	SP0008		GND TERM XM601	
	SP0022		KNOB SPRING #5000	
	SS0113		CHASSIS DXSR8	
	UE0258Y		FM-M.D.R-4(Y)	
	UX1047		WIRE DR130	
	UX1412		CABLE DXSR8	
	UX1422		CABLE PA	
	UX1423		WIRE ACC	
	YA0004		DIAL BOND	
	YX0053		LCD TAPE DXSR8	
	YZ0001		SI.GREASEG746 1GRAM	

Packing Unit

Ref. No.	Parts No.	Description	Parts Name	Version
	YZ0138	TAPE	BOTH FACES TAPE EBC7	
	HP0016		5X75X90	
	FM0114Z		MIC HANGER	
	AJ0025		PH T3.5+10 FE/N 1	
	EHM53Y		EHM53Y	SR8
	EHM64		MICROPHONE EHM64	SR8T,SR8E
	PR0714		20X80 LABEL	
	HU0250	INNER	10 INNER DJX30	
	PR0514		EPSON 10X49 LABEL(W)	
	PK0130		SCHEMATIC DXSR8	
	HK0714	INDIVIDAL BOX	INDIVIDUAL BOX SR8	
	HP0048		5X400X500	
	HU0277	INNER BOX	INNER BOX	
	HU0276	INNER PAD	INNER PAD	
	PS0610	MANUAL	INSTRUCTION DXSR8	
	UA0083	PAWOER CORD	POWER CORD 30A	
	PR0478		SERIAL SEAL	
	HM0264	CARTON BOX	2-CARTON BOX	
	HU0275	INNER SIDE	INNER SIDE	
	DS0446	MODEL PLATE SEAL	NITTO MODEL PLATE(S)	
	PH0015		WARRANTY CEAT	
	PR0515		N-25X40 LABEL(W)	SR8T

Adjustments

1) Required Test Equipment

The following items are required to adjust radio parameters

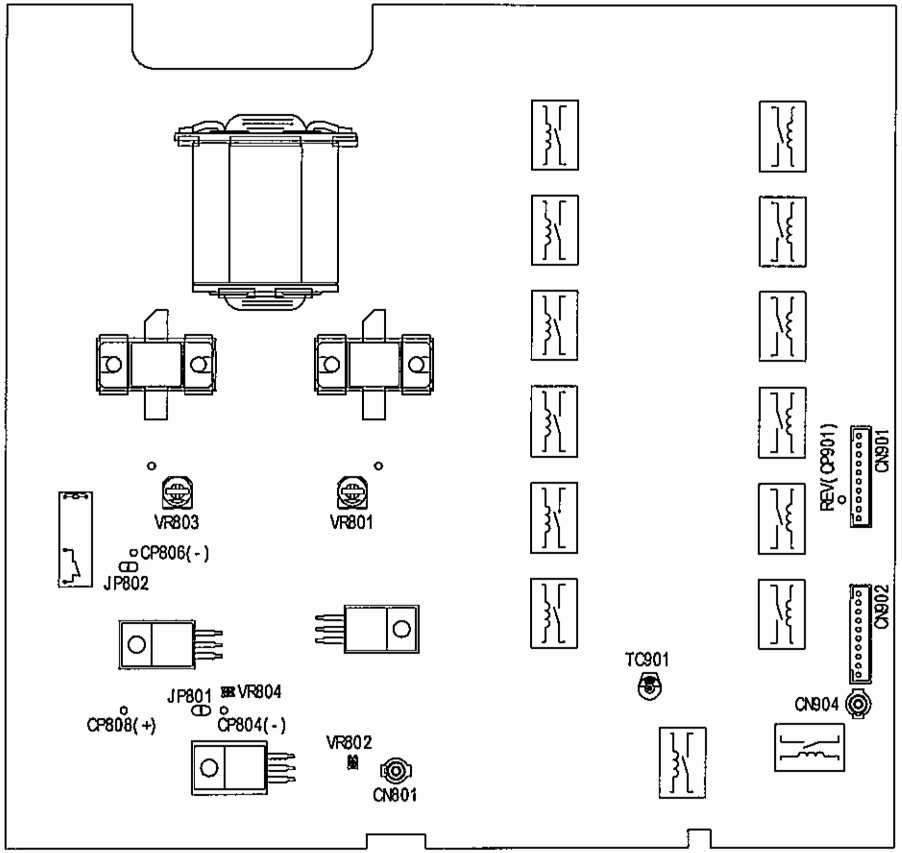
1.DC Regulated power supply		
	Supply voltage:	13.8V or more
	Current:	30A or more
2.Digital multimeter		
	Voltage range:	FS = Approx. 20V
	Current:	10A or more
	Input resistance:	High impedance
3.Oscilloscope		
	Measurable frequency:	Audio frequency
4.Audio dummy load		
	Impedance:	8Ω
	Dissipation:	3W or more
	Jack:	3.5mmΦ
5.SSG		
	Output frequency:	100MHz or more
	Impedance:	50Ω, unbalanced
	Modulation:	FM/AM
6.Spectrum Analyzer		
	Measurable frequency:	100MHz or more
	Impedance:	50Ω, unbalanced
7.Power meter		
	Measurable frequency:	1.6MHz to 30MHz
	Impedance:	50Ω, unbalanced
	Measuring range:	0.1W-150W
8.Audio volmeter		
	Measurable frequency:	Up to 100kHz
	Sensitivity:	1mV to 10V
9.Audio generator		
	Output frequency:	100Hz to 10kHz
	Output impedance:	600Ω, unbalanced
10.Distortion meter/SINAD meter		
	Measurable frequency:	1kHz
	Input level:	Up to 40dB
	Distortion:	1%-100%
11.Frequency counter		
	Measurable frequency:	1.6MHz to 30MHz
	Measurable stability:	Approx. ±0.1ppm
12.Linear detector		
	Measurable frequency:	1.6MHz to 30MHz
	Characteristics:	Flat
	CN:	60dB or more
13. DC Ammeter		
	Current:	30A or more

Note:

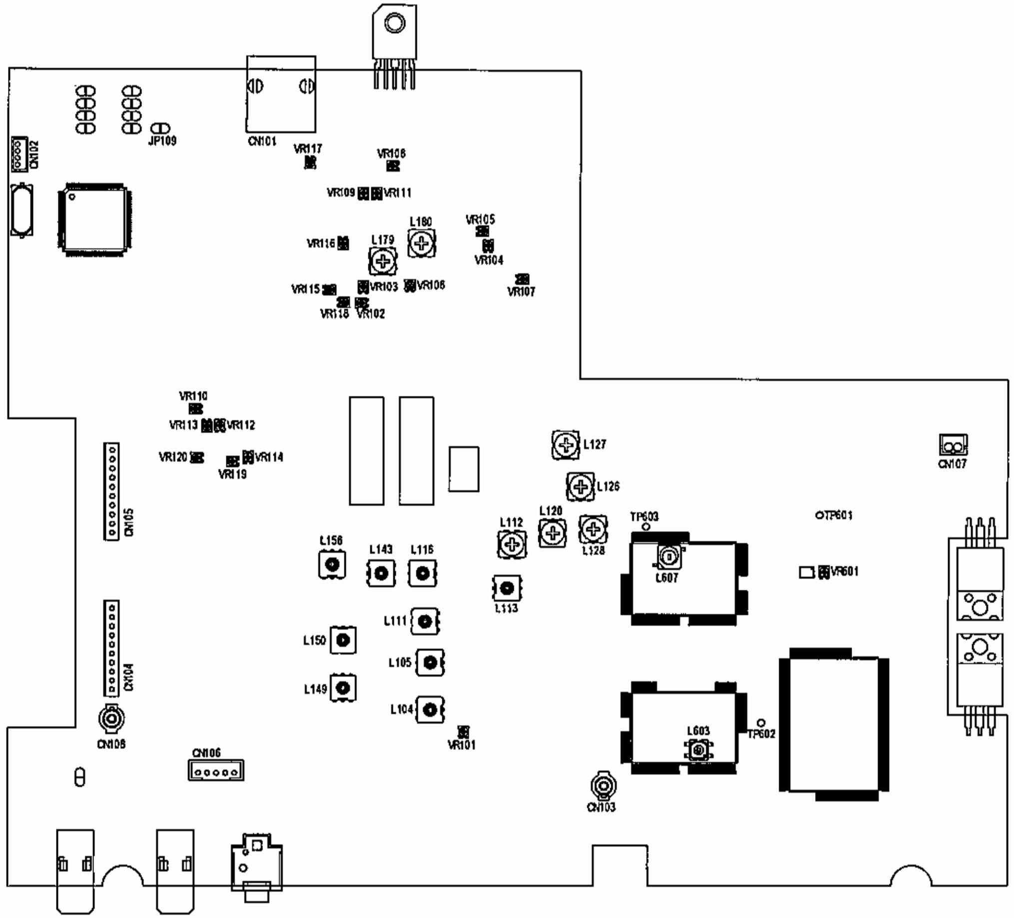
(1). SSG initial setting
Modulation Frequency:1kHz
Modulation Level:3.5kHz
(3). Reference sensitivity(FM): 12dB SINAD
(4). Specified audio output level: 2W at 8Ω
(5). Standard audio output level: 50mW at 8Ω
(6). Use an RF cable (5D2V:1M) for test equipment.
(7). Attach a fuse to the RF test equipment.
(8). All SSG outputs are indicated by EMF
(9). Supply voltage for the transceiver:13.8VDC

2) Adjustment Spot

PA Unit Adjustment Spot

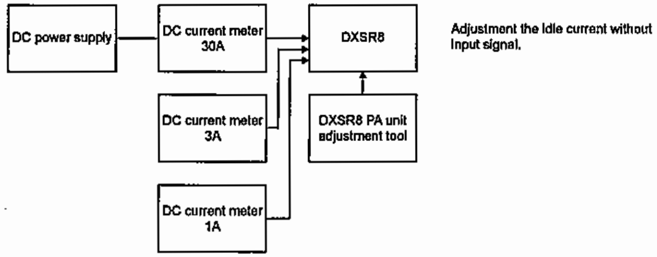


MAIN Unit Adjustment Spot

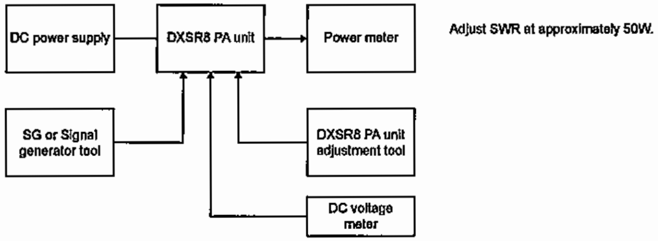


3) PA Unit Adjustment

Idling Current Adjustment Setting



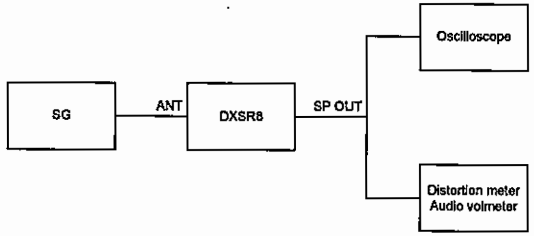
SWR Detection Adjustment Setting



ITEM	CONDITION	UNIT	ADJ.SPOT	ADJUSTING METHOD
Pre-Drive Idling Current Adjustment	SSG : OFF Mode : USB	PA	VR802	The cable of CN801 is removed. VR801,VR803 : Minimum (Turn left.) Connect the current meter between CP808 (+) and CP804 (-), then adjust VR802 to 100mA in transmission mode. Connect JP801 by soldering after adjustment.
Drive Idling Current Adjustment	SSG : OFF Mode : USB	PA	VR804	Connect the current meter between CP808 (+) and CP806 (-), then adjust VR804 to 700mA in transmission mode. Connect JP802 by soldering after adjustment.
Final Idling Current Adjustment	SSG : OFF Mode : USB	PA	VR801 VR803	Turn VR801 and VR803 counterclockwise fully, check the total current in transmission mode. Turn VR801 clockwise slowly so that the total current increases 400mA. Then turn VR803 clockwise slowly so that the total current increases 400mA. As a result, the total current increases 800mA.
SWR Detection	1.9000MHz Mode : USB SG output -14dBm into CN801. (Range of current meter:30A)	PA	TC901	Adjust the output power to 50W, then adjust the TC901 so that REV (CP901) voltage minimum.

4) MAIN Unit Adjustment

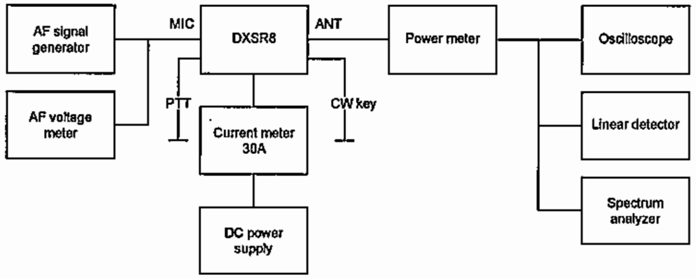
(a) RX Adjustment



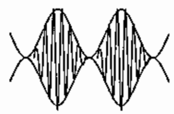
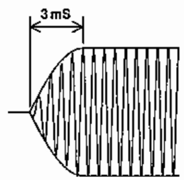
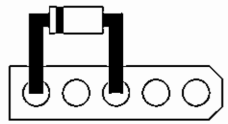
ITEM	CONDITION	UNIT	ADJ.SPOT	ADJUSTING METHOD
TCXO		MAIN	VR601	Adjust it so that the TP601 output becomes 16.777216MHz ± 5Hz at a frequency counter.
Interstage Tuning	14.1000MHz MODE : USB RF : +10dB SG : 0dBu Mod : OFF	MAIN	L149 L150 L156 L143 L116 L113 L120 L179 L180	Adjust every following group repeatedly to obtain the maximum AF output level. L149, L150, L156 L143, L116, L113 L120 L179, L180
FM Sensitivity	14.1000MHz MODE : FM RF : +10dB SG : 0dBu 1KHz 1.75KHz/DEV	MAIN	L150 L156 L143 L116 L113	Adjust repeatedly to obtain the maximum SINAD. SINAD should be 13dB or more.
Total Gain	14.1000MHz MODE : USB RF : 0dB SG : 40dBu	MAIN	VR106	Adjust SP output by setting the AF gain to about 1V. The output level should be 0dB. Adjust only the noise output to -28dB by turning OFF SG output.
S Meter	14.1000MHz MODE : USB RF : 0dB SG : 20dBu	MAIN	VR105	The indicator between first and second digits is flashing.
	SG : 40dBu	MAIN	VR104	The 9th digit flashing. Adjust VR105 and VR104 repeatedly.
Noise Blanker	14.1000MHz MODE : USB RF : +10dB SG : 40dBu FM MOD 20Hz 100KHz/DEV Noise Blanker ON (FUNC → 9 key)	MAIN	L128 L126 L127	Adjust it so that noise level becomes minimum. Then the S meter disappears.

4) MAIN Unit Adjustment

(b) TX Adjustment



ITEM	CONDITION	UNIT	ADJ.SPOT	ADJUSTING METHOD
TX Output Power	14.1000MHz MODE : FM	MAIN	L112 L111 L105 L104	CN103 is connected with spectrum analyzer. Adjust it so that the CN 103 output becomes maximum power at a spectrum analyzer.
Current Limit	1.9000MHz MODE : FM Mod : OFF	MAIN	VR110	CN103 is connected with CN801(PA UNIT). Adjust it in VR112 so that power becomes maximum. After adjust to 20.0±0.1 A (It is adjusted that the current reaches the maximum value when the maximum value of the current is 20A or less). Be careful not to run much current for short time.
100W Power 100W	14.1000MHz MODE : FM Mod : OFF	MAIN	VR112	Adjust to 100.0±1.0 W.
FAN MOTOR Confirmation	FAN MOTOR	Confirm	Confirm	The fan must turn when the temperature rises while transmitting. Clatter doesn't come out when the FAN motor turns.
LOW Power	14.1000MHz MODE : FM LOW POWER (FANC → 0 key) Mod : OFF	MAIN	VR119	Adjust to 10.0±1.0 W.
Supper LOW Power	14.1000MHz MODE : FM SLOW POWER (FANC → 0 key) Mod : OFF	MAIN	VR120	Adjust to 1.0±0.1 W.

ITEM	CONDITION	UNIT	ADJ.SPOT	ADJUSTING METHOD
50W Power 50W	14.1000MHz MODE : FM Mod : OFF	MAIN	VR114	Connect JP109 by soldering before adjustment. Adjust to 50.0±1.0 W. Remove the solder of JP109 after adjustment.
FM Modulation Level	28.1000MHz MODE : FM 1KHz -35dBm LPF:OFF HPF:OFF	MAIN	VR116	Adjust to 2.3±0.1 KHz/DEV
Carrier Balance	14.1000MHz MODE : USB Mod : OFF	MAIN	VR102 VR103	Adjust VR102 and VR103 so that the carrier suppression is 50dB or below at 100W.
AM Wave Form	14.1000MHz MODE : AM 1KHz -43dBm	MAIN	VR115	Make sure of the wave form. The wave form becomes modulation 100%. 
CW Carrier	14.1000MHz MODE : CW-L, CW-U	MAIN	VR118	Make sure of the wave form. The wave form of rise and fall should be symmetry. The inclination is approx. 3mS. The side tone of CW is should be heard speaker. It is confirmed that the transmission output is 90W or more. 
TUNE Power	14.1000MHz 「FUNC」+「.」	MAIN	VR113	The JIG (diode) is installed as the figure. After「FUNC」→「.」 Adjust to 10.0±0.1W. 

5) RX Test Specification

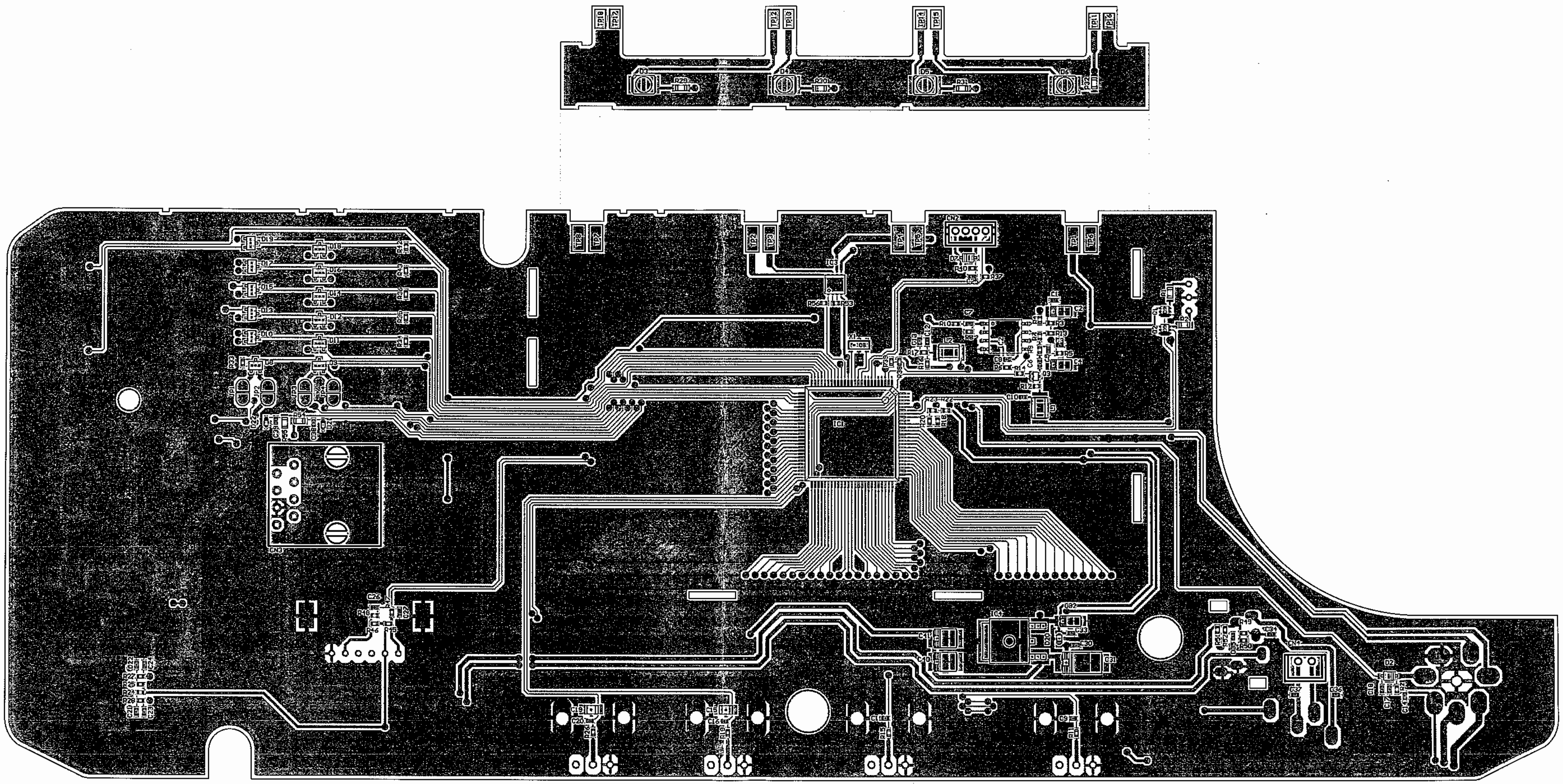
TEST ITEM	CONDITION	TEST STANDARD	NOTE
RX Sensitivity SSB	1.0000MHz LSB 1.9000MHz LSB 3.6000MHz LSB 7.1000 MHz LSB 10.1000 MHz USB 14.1000 MHz USB 18.1000 MHz USB 21.1000 MHz USB 24.9000 MHz USB 28.1000 MHz USB RF : +10dBu	Less than +6dBu Less than -6dBu Less than -6dBu Less than -6dBu Less than -6dBu Less than -6dBu - Less than -6dBu - Less than -6dBu	S/N is 10dB or more The test standard nothing entry is omitted so that confirmation in same BPF is made.
RX Sensitivity AM	1.0000MHz 14.1000MHz MOD 1KHz 30% RF : +10dBu	Less than +26dBu Less than +12dBu	S/N is 10dB or more
RX Sensitivity FM	28.1000MHz MOD 1KHz 1.75KHz/DEV RF : +10dBu	Less than 0dBu	SINAD is 12dB or more
RX Distortion FM	28.1000MHz MOD:1KHz 1.75KHz/DEV RF : +10dBu	Less than 5%	SSG Output 40dBu
S Meter	14.1000MHz MODE : USB RF : 0dB SG : OFF	Disappear	Decrease SSG level and decrease S Meter level
	SG : 20dBu	S 1～2	
	SG : 40dBu	S 8～9.5	
Squelch SSB	14.1000MHz MODE : USB RF : 0dB SG : OFF	When the position of squelch volume is about 9 to 11, Squelch Close.	
	SG : 30dBu SQL VOL: MAX	Squelch Close	
Noise Blanker	14.1000MHz MODE : USB RF : +10dBu SG : 40dBu MOD 20Hz 100KHz/DEV Noise Blanker ON (FUNC → 9 key)	Confirm	The noise is reduced in Noise Blanker SW ON, and there is not S meter indication.

TEST ITEM	CONDITION	TEST STANDARD	NOTE
AGC	14.1000MHz MODE : USB RF : +10dBu SG : +40dBu Switch AGC-F/S (FUNC → MHz key)	Confirm	Switch AGC-S. When SG is turned OFF, the meter moves slowly. Switch AGC-F. When SG is turned OFF, the meter moves fast.
RF GAIN	14.1000MHz MODE : USB SG : +40dBu	Confirm	Change RF GAIN, and the oscillation of the S meter change.
FILTER Switching	14.1000MHz MODE : CW, AM SG : OFF Switch the FILTER (FUNC → RF key)	Confirm	Switch the FILTER in every mode, the noise sound should be changed.

6) TX Test Specification

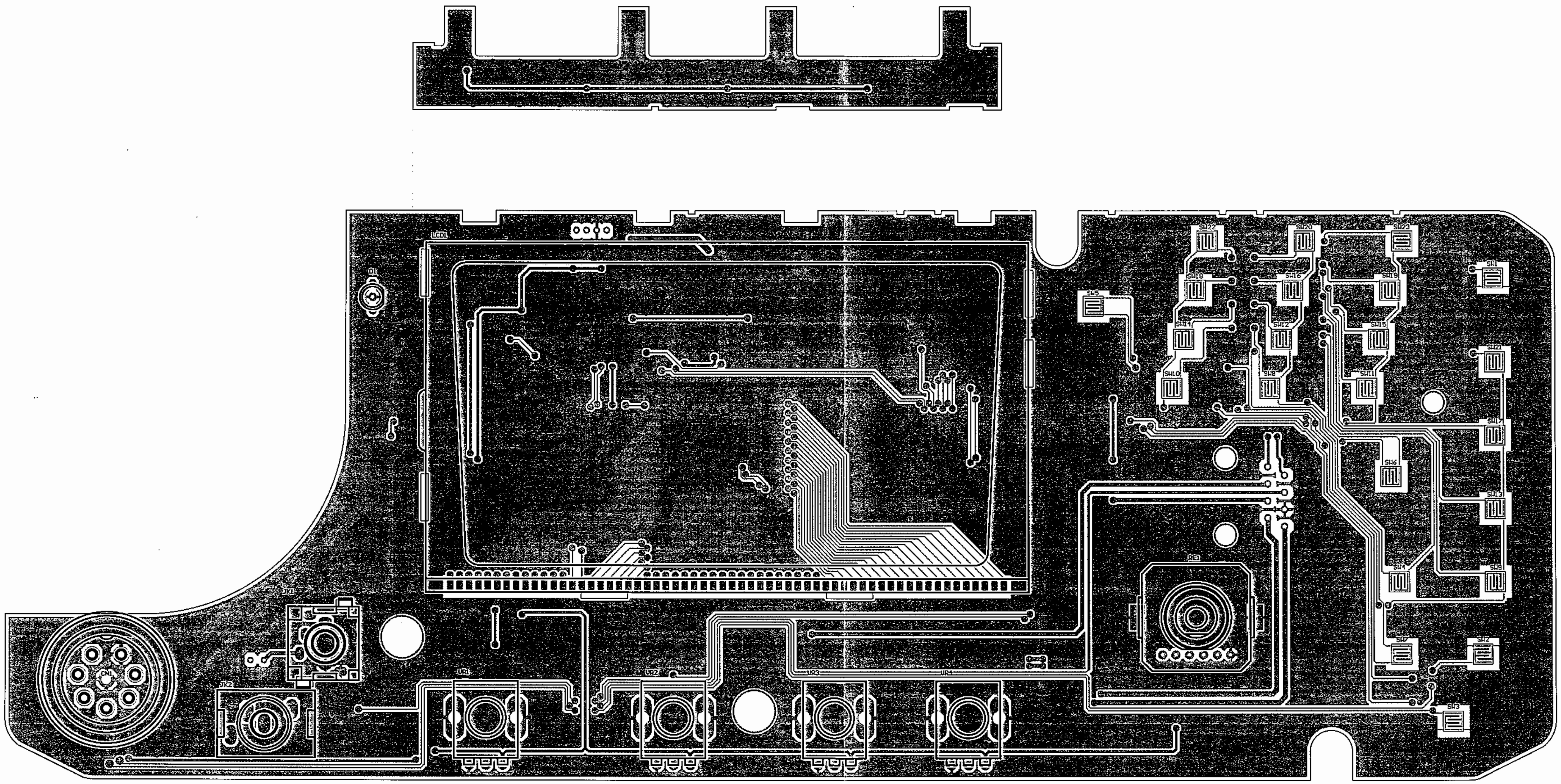
TEST ITEM	CONDITION	TEST STANDARD	NOTE
Frequency Deviation	14.1000MHz MODE : AM	Within±50Hz	
TX Output HI POWER MODE : FM MOD : OFF	1.9MHz BAND 3.5MHz BAND 7MHz BAND 10MHz BAND 14MHz BAND 18MHz BAND 21MHz BAND 24MHz BAND 28MHz BAND	90 ~ 115W	The initial value of each band.
TX Output HI POWER MODE : AM MOD : OFF	1.9MHz BAND 3.5MHz BAND 7MHz BAND 10MHz BAND 14MHz BAND 18MHz BAND 21MHz BAND 24MHz BAND 28MHz BAND	30 ~ 55W	The initial value of each band.
Total Current HI POWER MODE : FM MOD : OFF	1.9MHz BAND 3.5MHz BAND 7MHz BAND 10MHz BAND 14MHz BAND 18MHz BAND 21MHz BAND 24MHz BAND 28MHz BAND	Less than 20A	The initial value of each band.
TX Output Lo POWER MODE : FM MOD : OFF	14.1000MHz	7 ~ 15W	
TX Output Supper Lo POWER MODE : FM MOD : OFF	14.1000MHz	0.5 ~ 2W	
TUNE POWER	14.1000MHz	10.0±2.0W	
Modulation Level	28.1000MHz FM 1KHz-35dBm	2.3±0.2 KHz/DEV	
TONE(88.5Hz)	28.1000MHz MODE : FM MOD : OFF TONE ON (FUNC → 4 key)	0.3 ~ 0.7KHz/DEV	3KHz LPF ON
CW Wave Form	14.1000MHz MODE : CW	Leading edge 2 ~ 6mS	
FM Spurious	1.9MHz BAND 3.5MHz BAND 7MHz BAND 10MHz BAND 14MHz BAND 18MHz BAND 21MHz BAND 24MHz BAND 28MHz BAND	Less than -50dB Less than -50dB Less than -50dB Less than -40dB Less than -50dB Less than -50dB Less than -50dB Less than -50dB Less than -48dB	Low and Slow standard power is also the same as of Hi power level
Carrier Balance SSB MOD : OFF	14MHz BAND	Less than -45dB	MODE : USB / LSB
Confirm Modulation	FM on 28MHz Other mode on any band.	Confirm	Make sure the modulation sound in every mode.
MODE : SSB AM FM	SPEECH ON MODE : USB	Confirm	See modulation goes up. Power meter swings more.
AM 100% Modulation	14.1000MHz MODE : AM MOD : 1KHz -43dBm HPF:0.3kHz LPF:3kHz	80% or more	

FRONT SIDE B

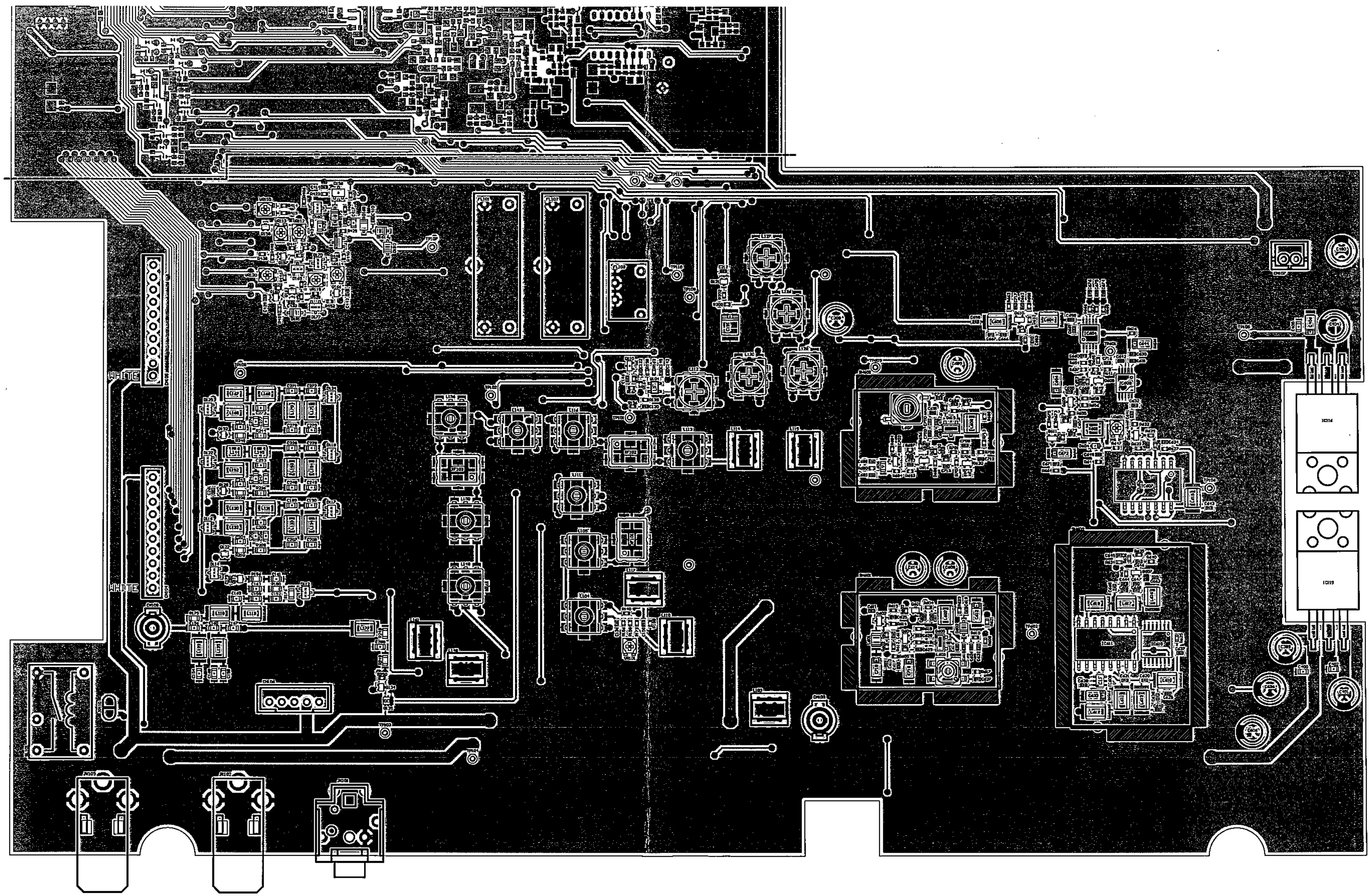


PC BOARD VIEW

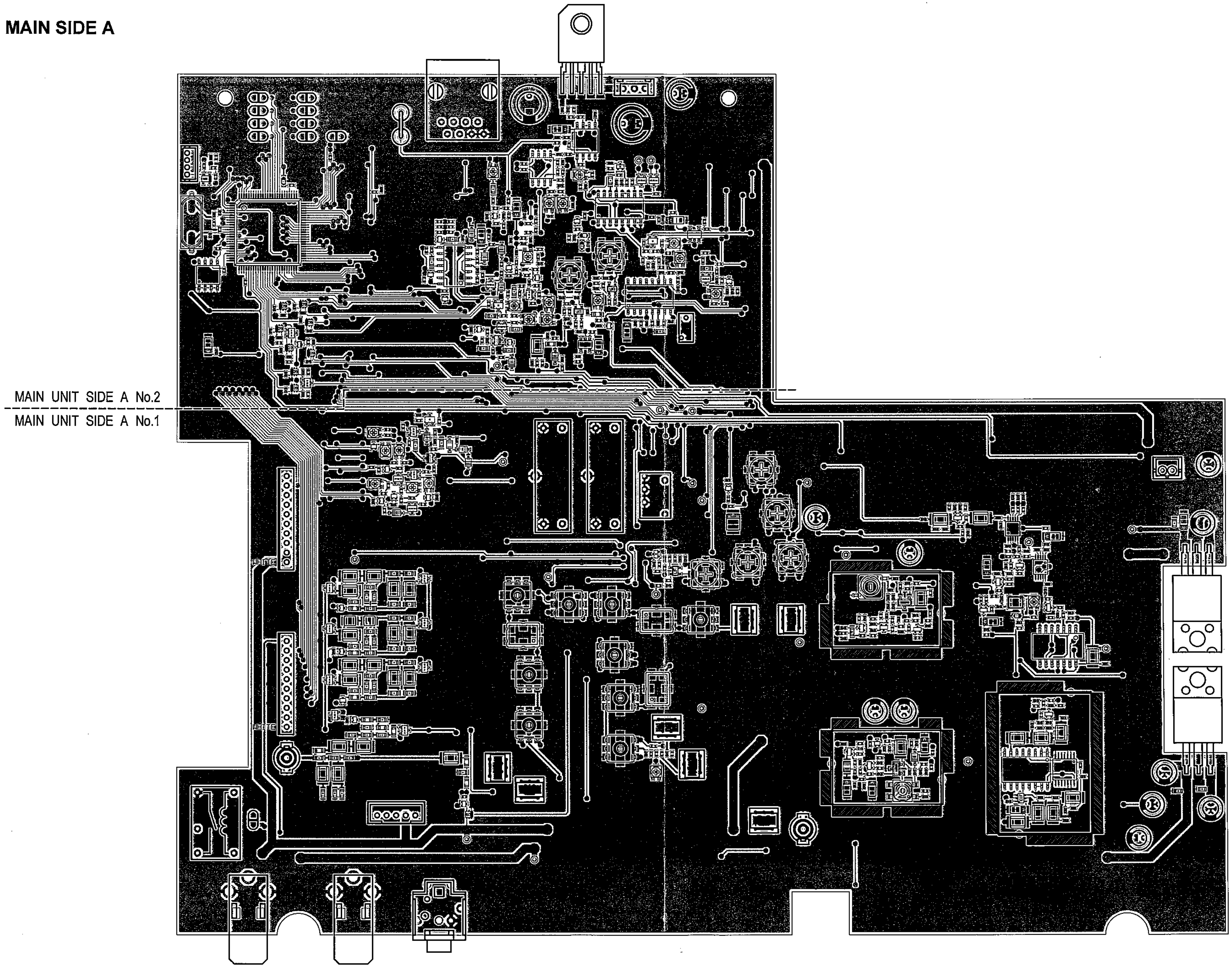
FRONT SIDE A



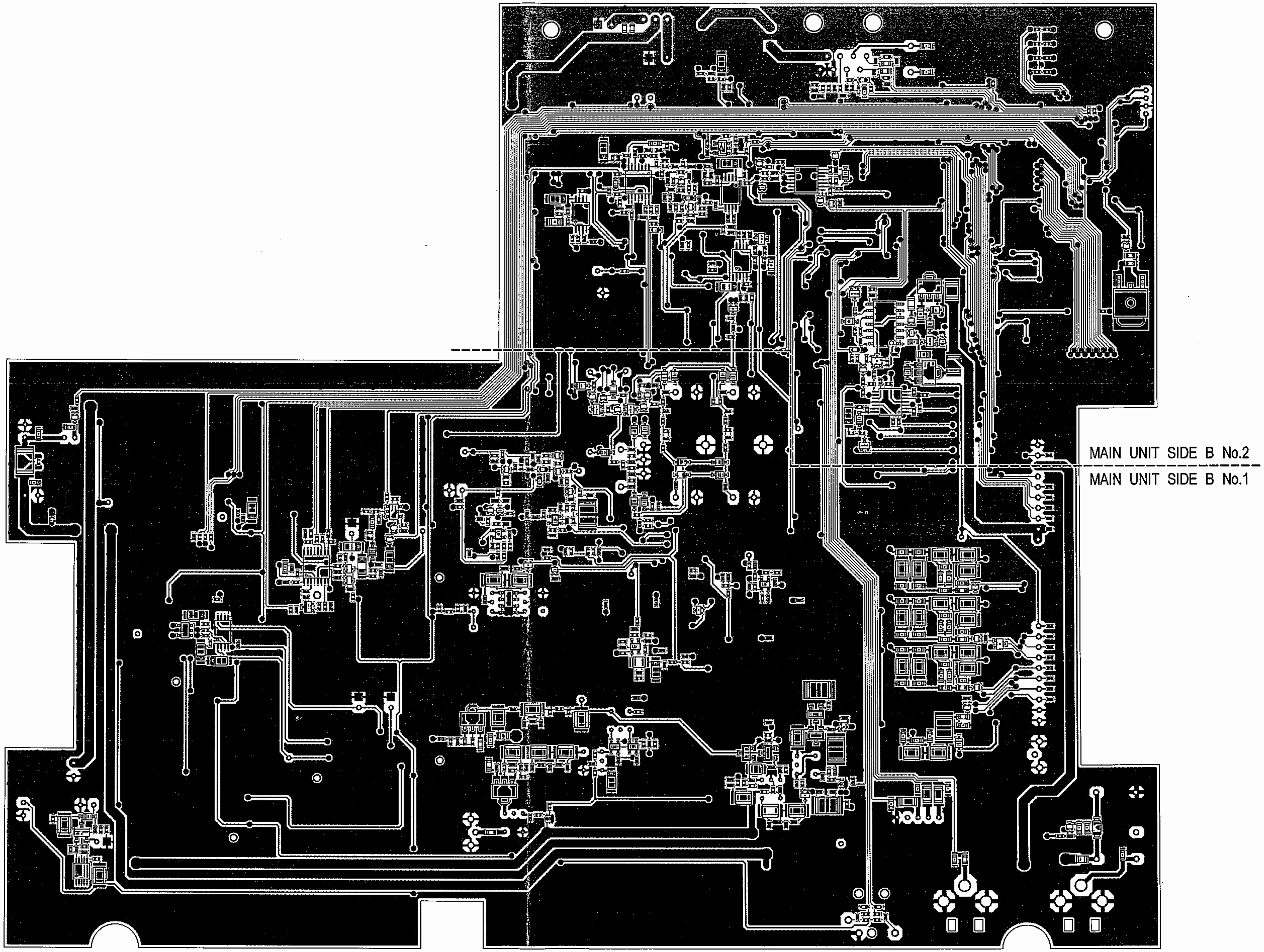
MAIN SIDE A No.1



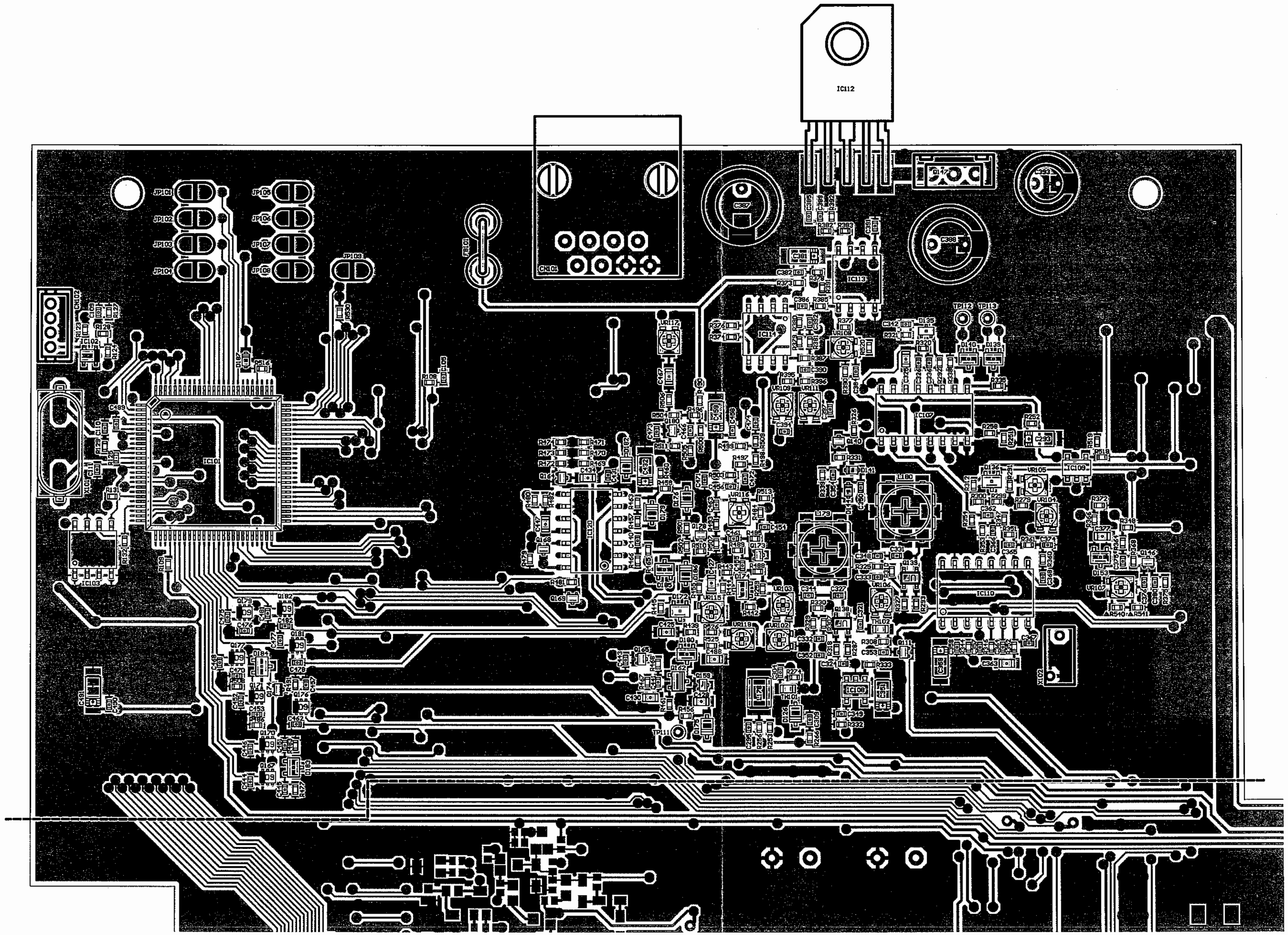
MAIN SIDE A



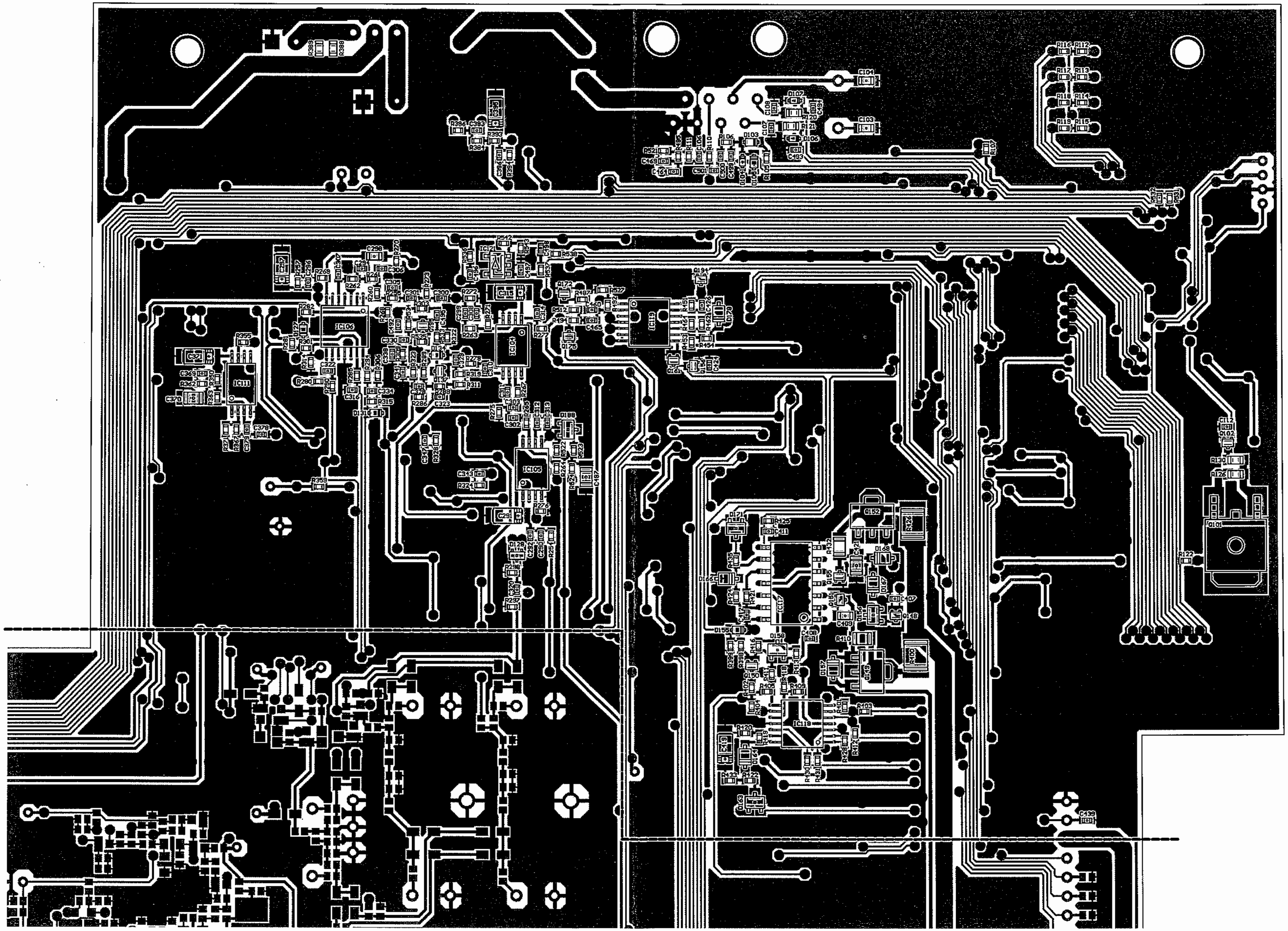
MAIN SIDE B



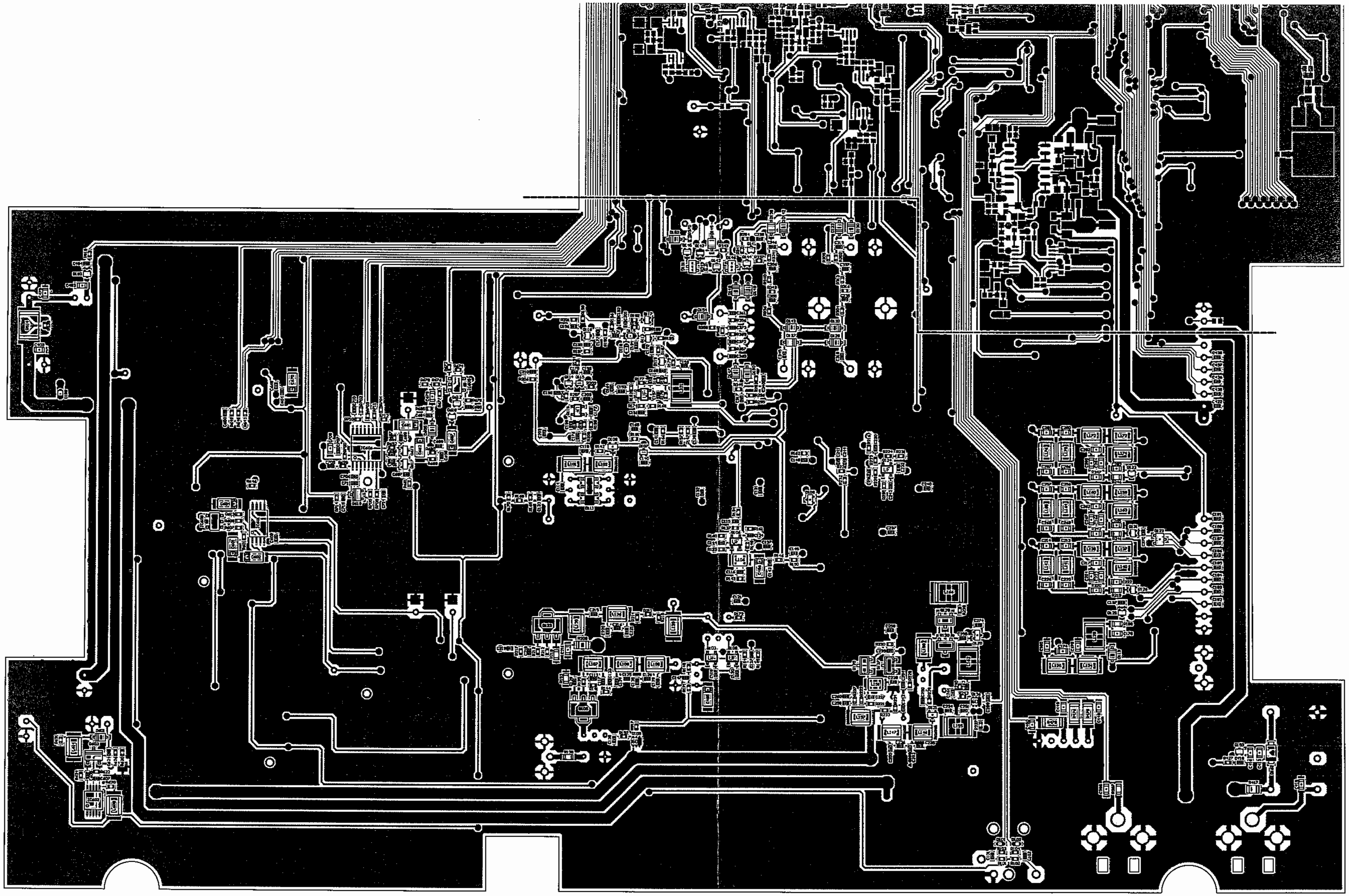
MAIN SIDE A No.2



MAIN SIDE B No.2

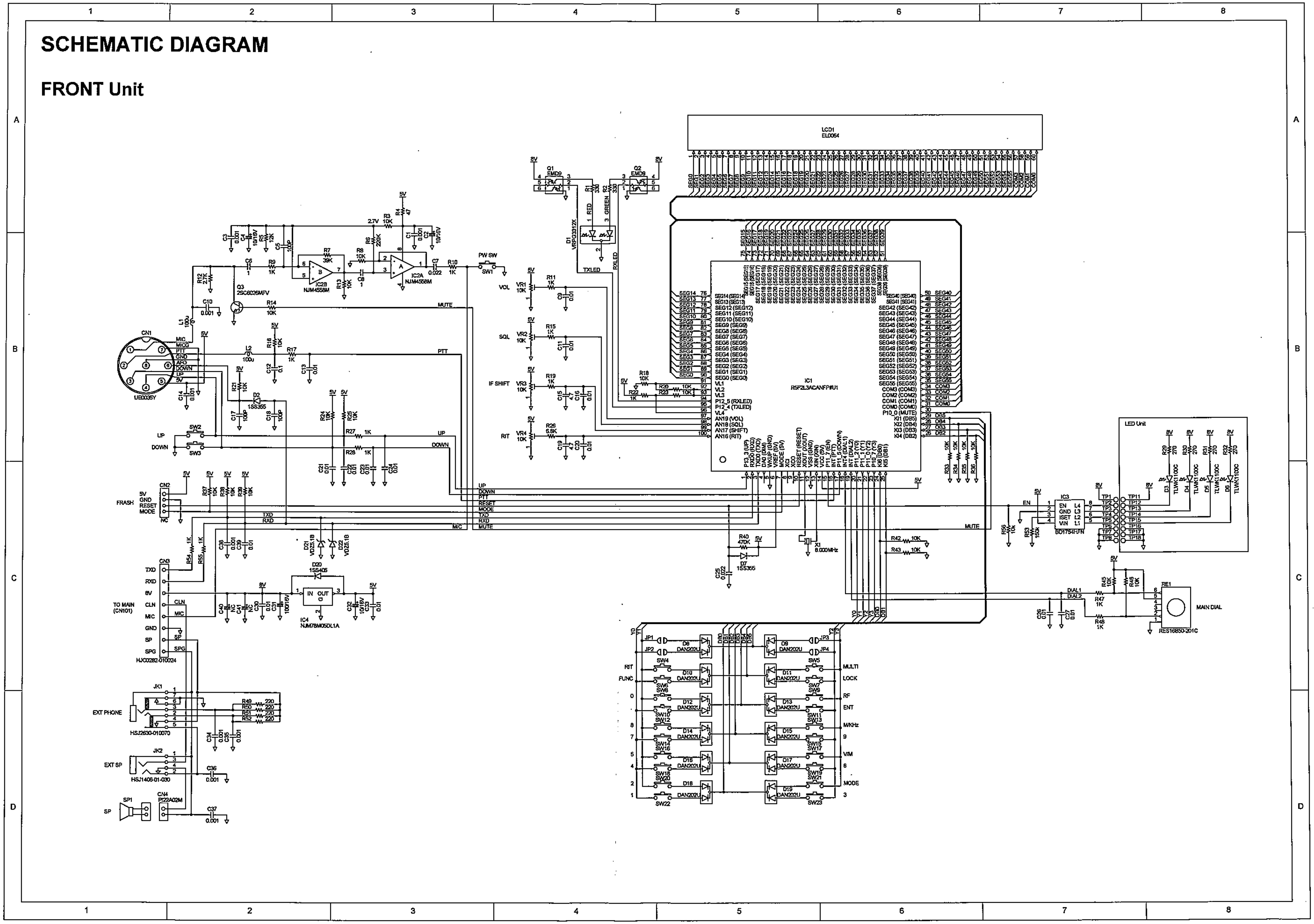


MAIN SIDE B No.1

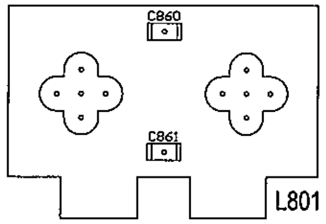


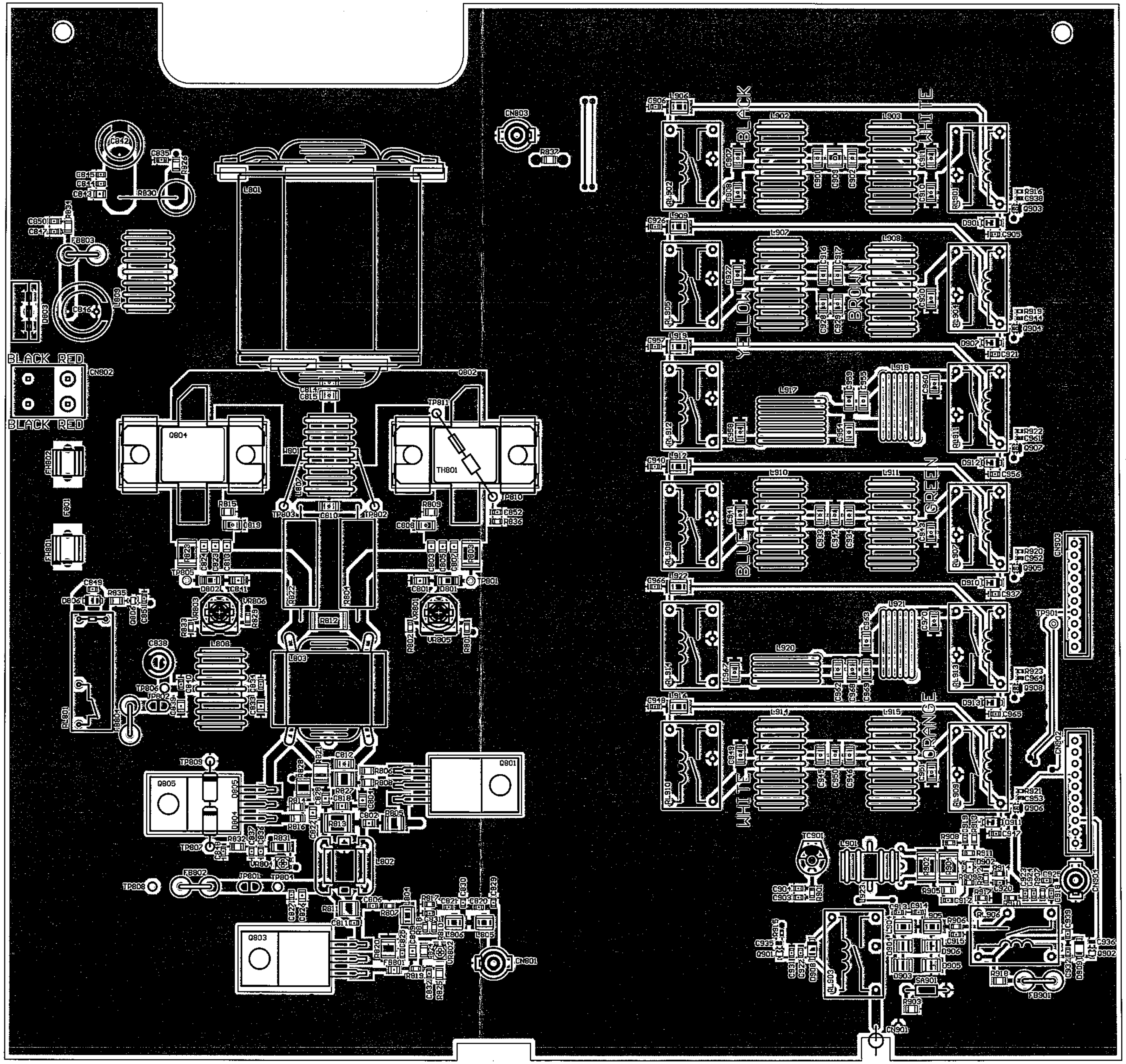
SCHEMATIC DIAGRAM

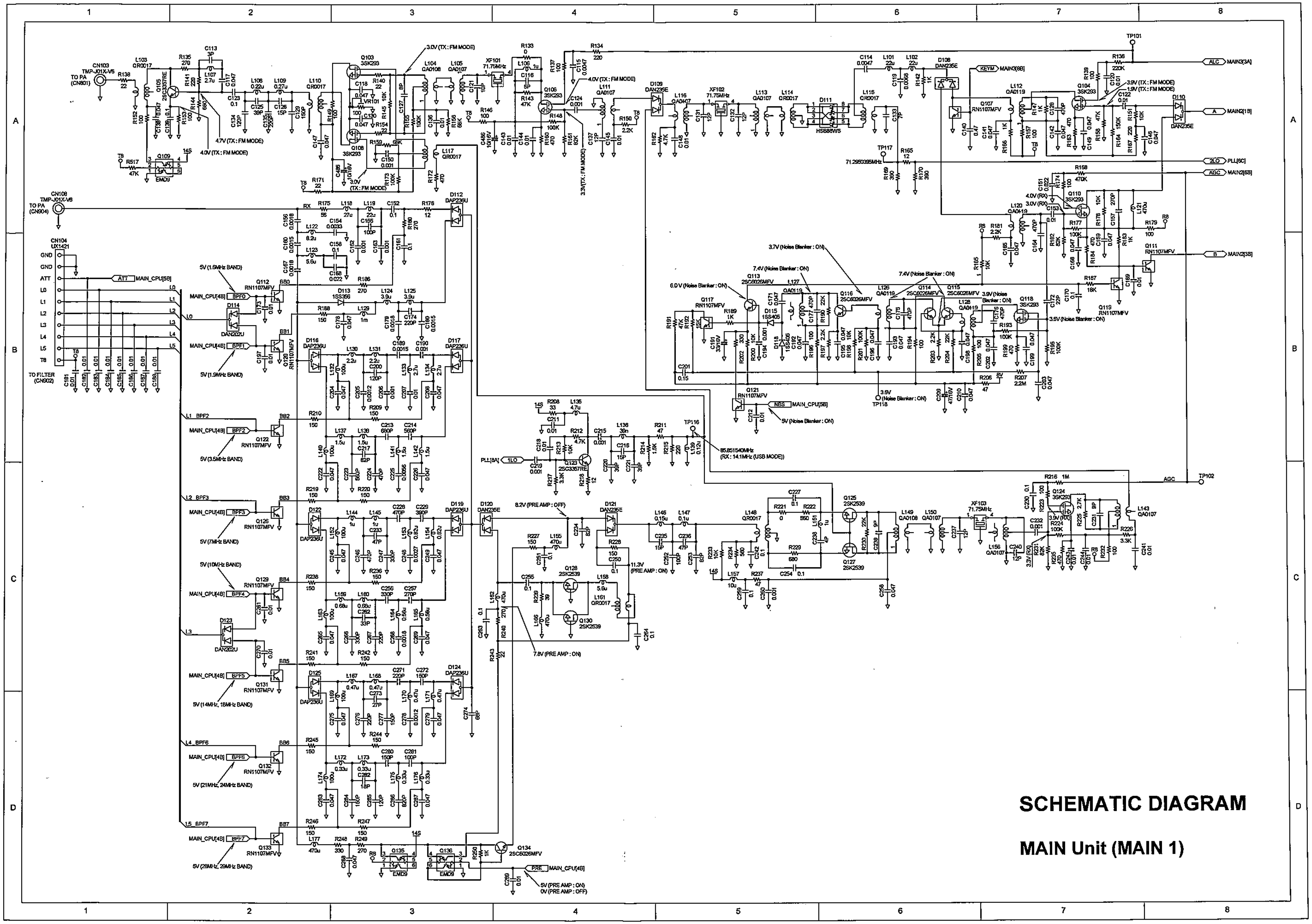
FRONT Unit



PA SIDE A


C860
C861
L801


BLACK
WHITE
YELLOW
BROWN
GREEN
BLUE
ORANGE
WHITE
BLACK RED
BLACK RED



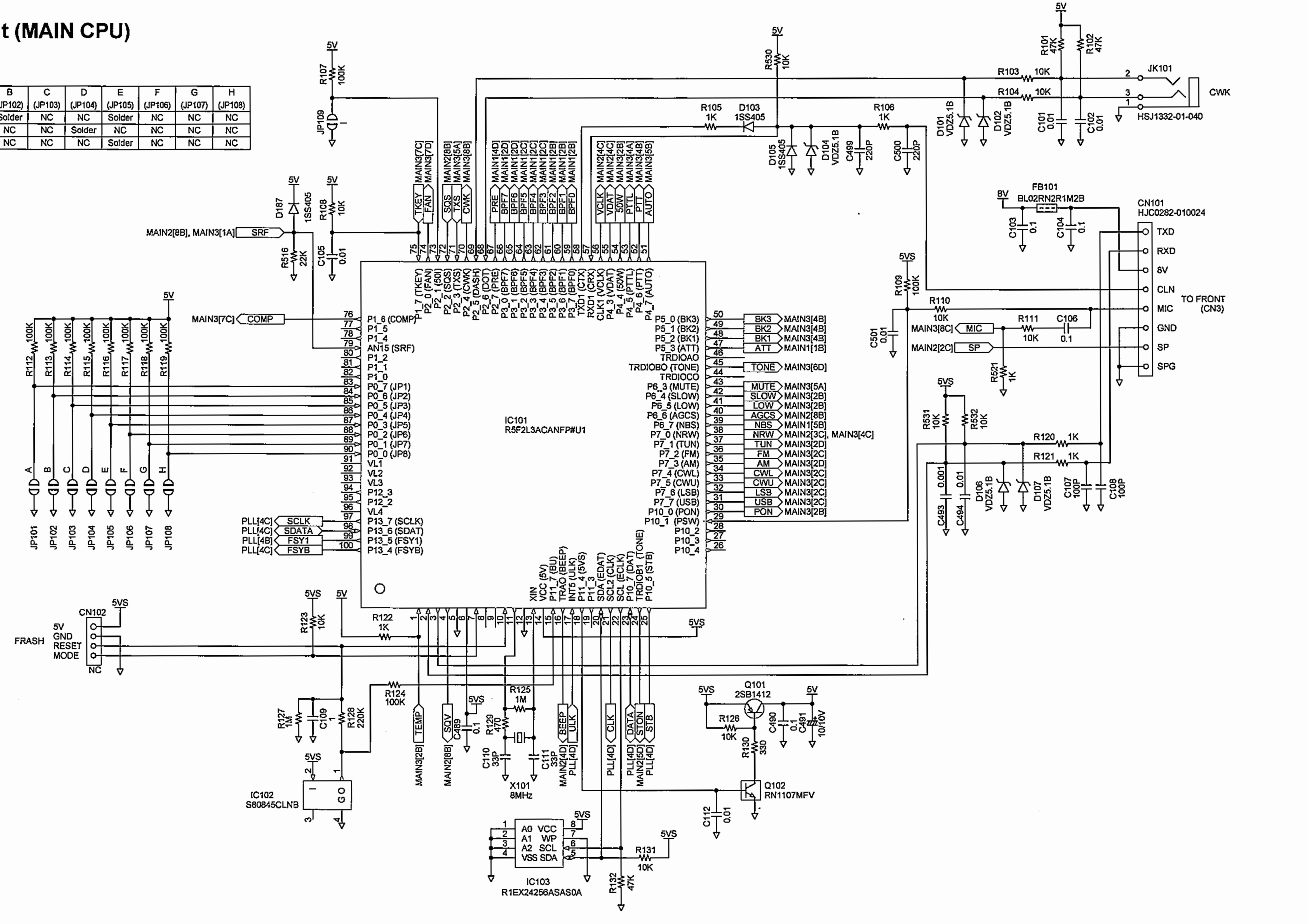
SCHEMATIC DIAGRAM

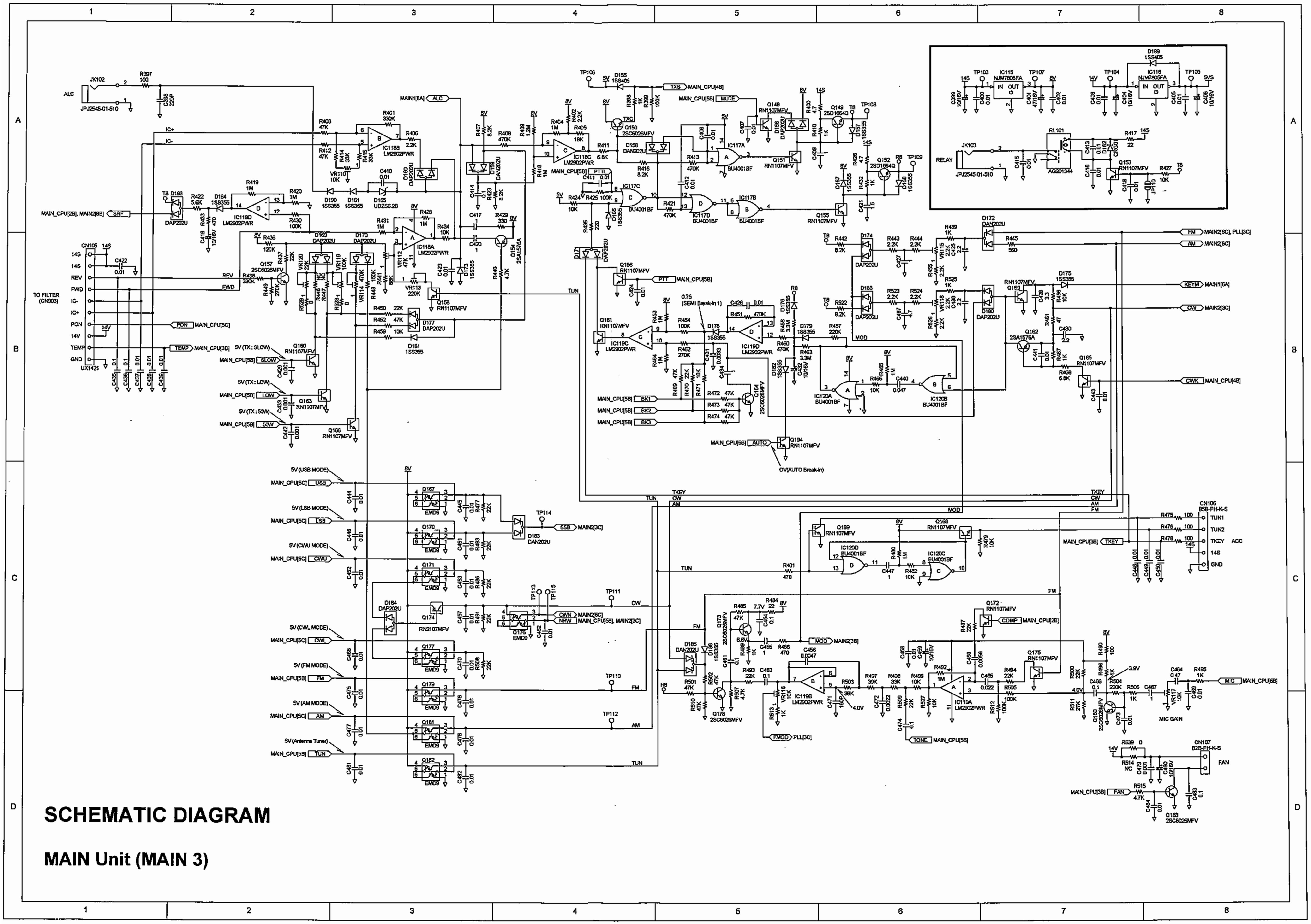
MAIN Unit (MAIN 1)

SCHEMATIC DIAGRAM

MAIN Unit (MAIN CPU)

	A (JP101)	B (JP102)	C (JP103)	D (JP104)	E (JP105)	F (JP106)	G (JP107)	H (JP108)
DXSR8	Solder	Solder	NC	NC	Solder	NC	NC	NC
DXSR8 T	NC	NC	NC	Solder	NC	NC	NC	NC
DXSR8 E	NC	NC	NC	NC	Solder	NC	NC	NC



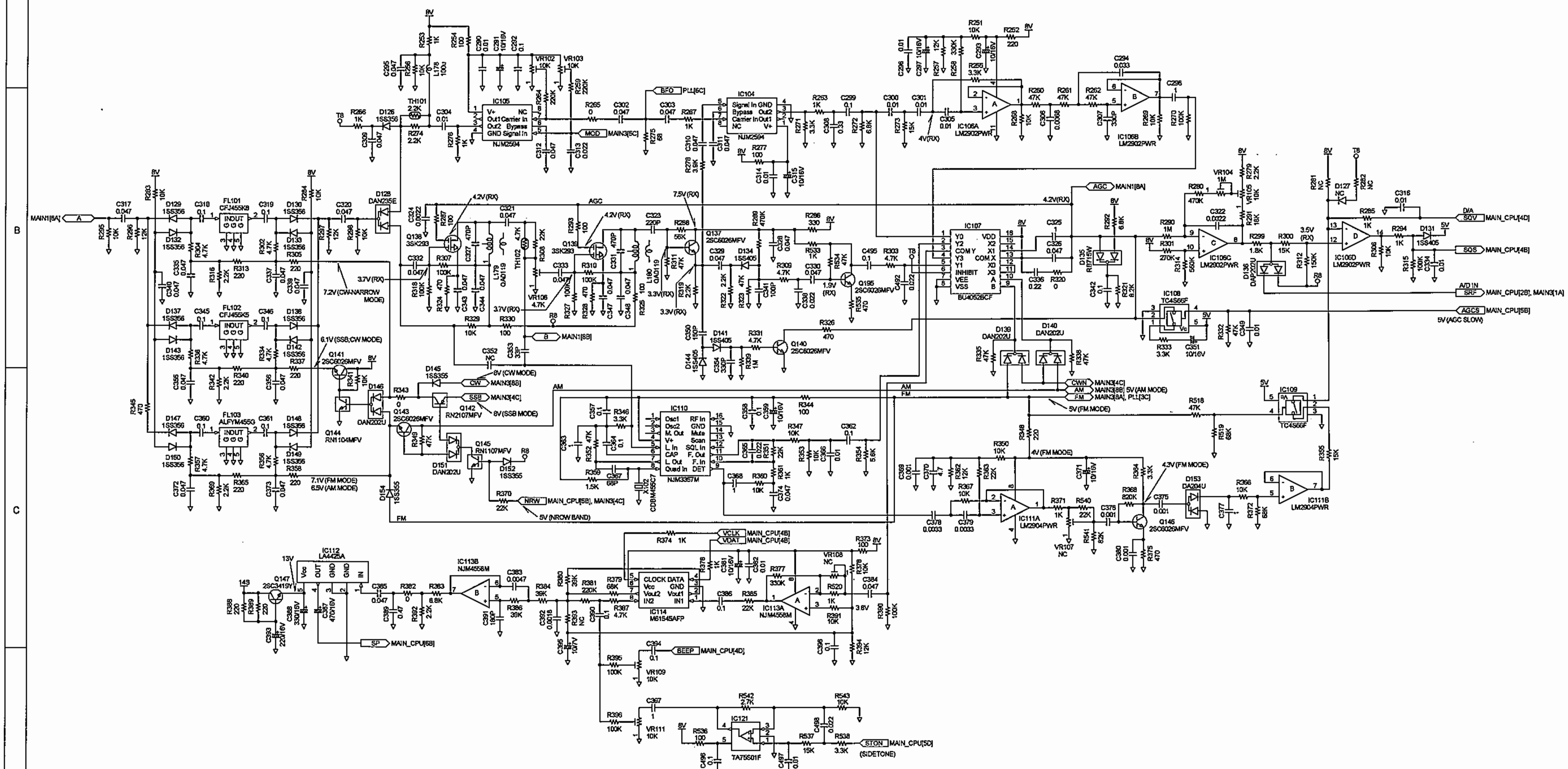


SCHEMATIC DIAGRAM

MAIN Unit (MAIN 3)

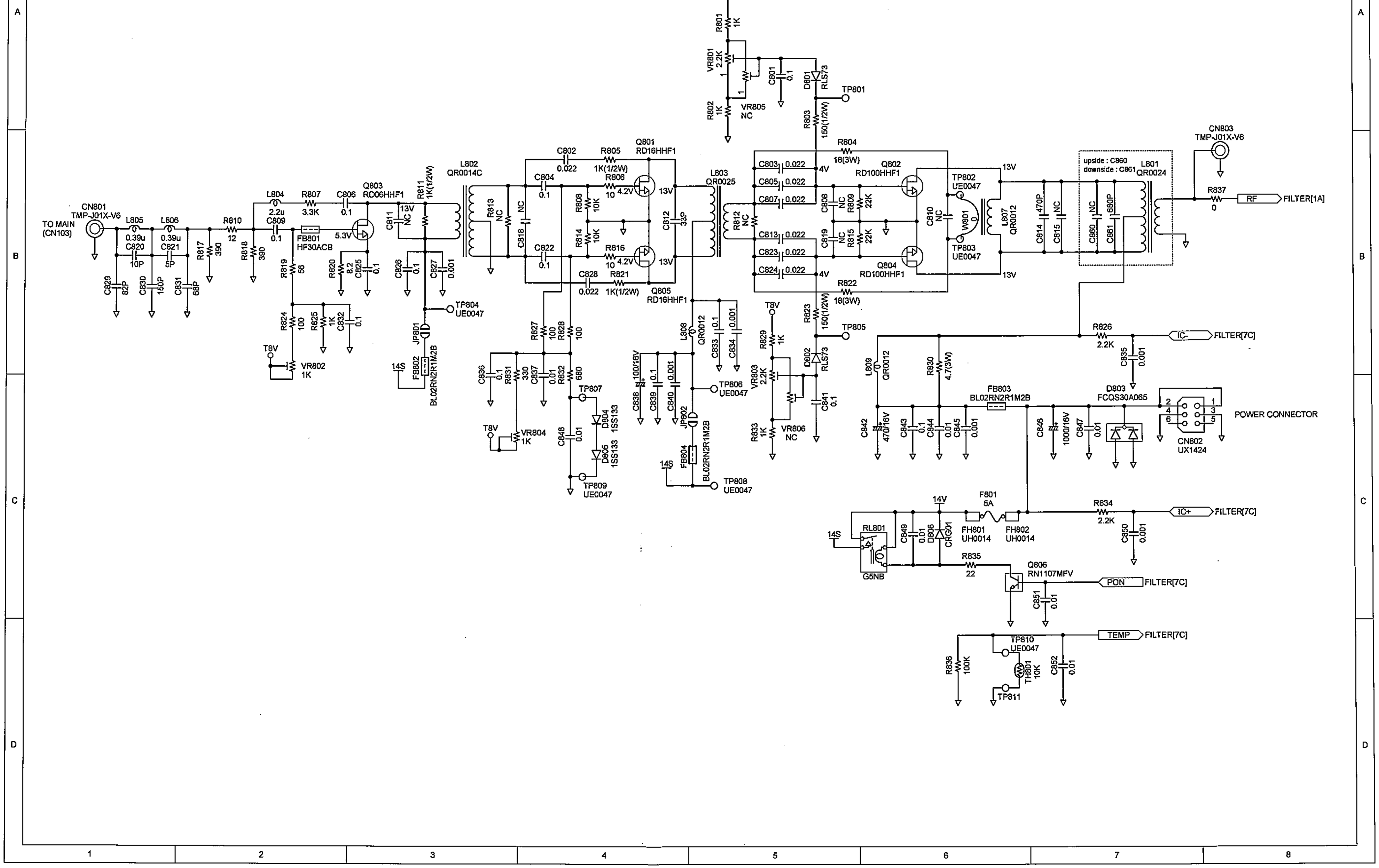
SCHEMATIC DIAGRAM

MAIN Unit (MAIN 2)



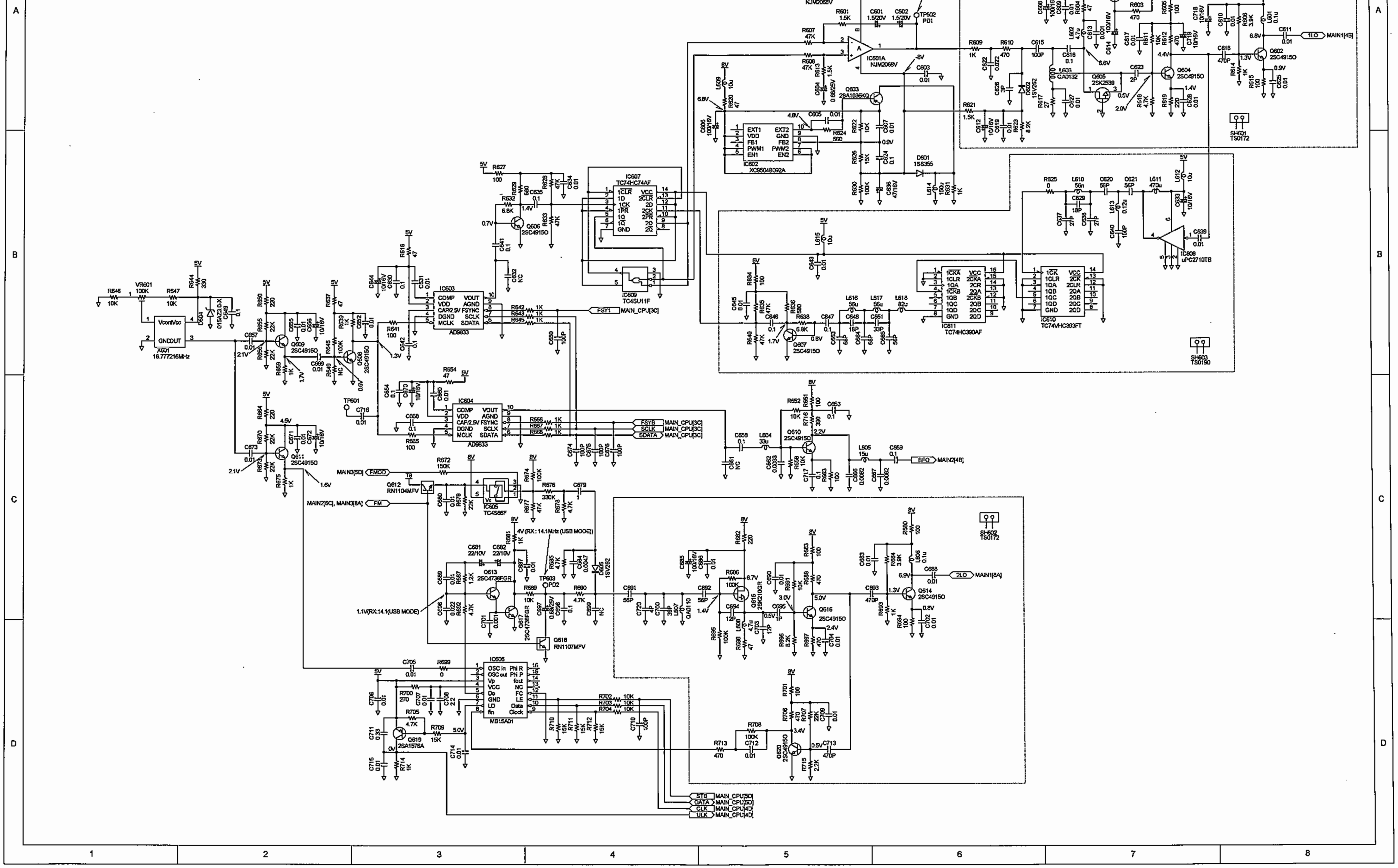
SCHEMATIC DIAGRAM

PA Unit (PA)

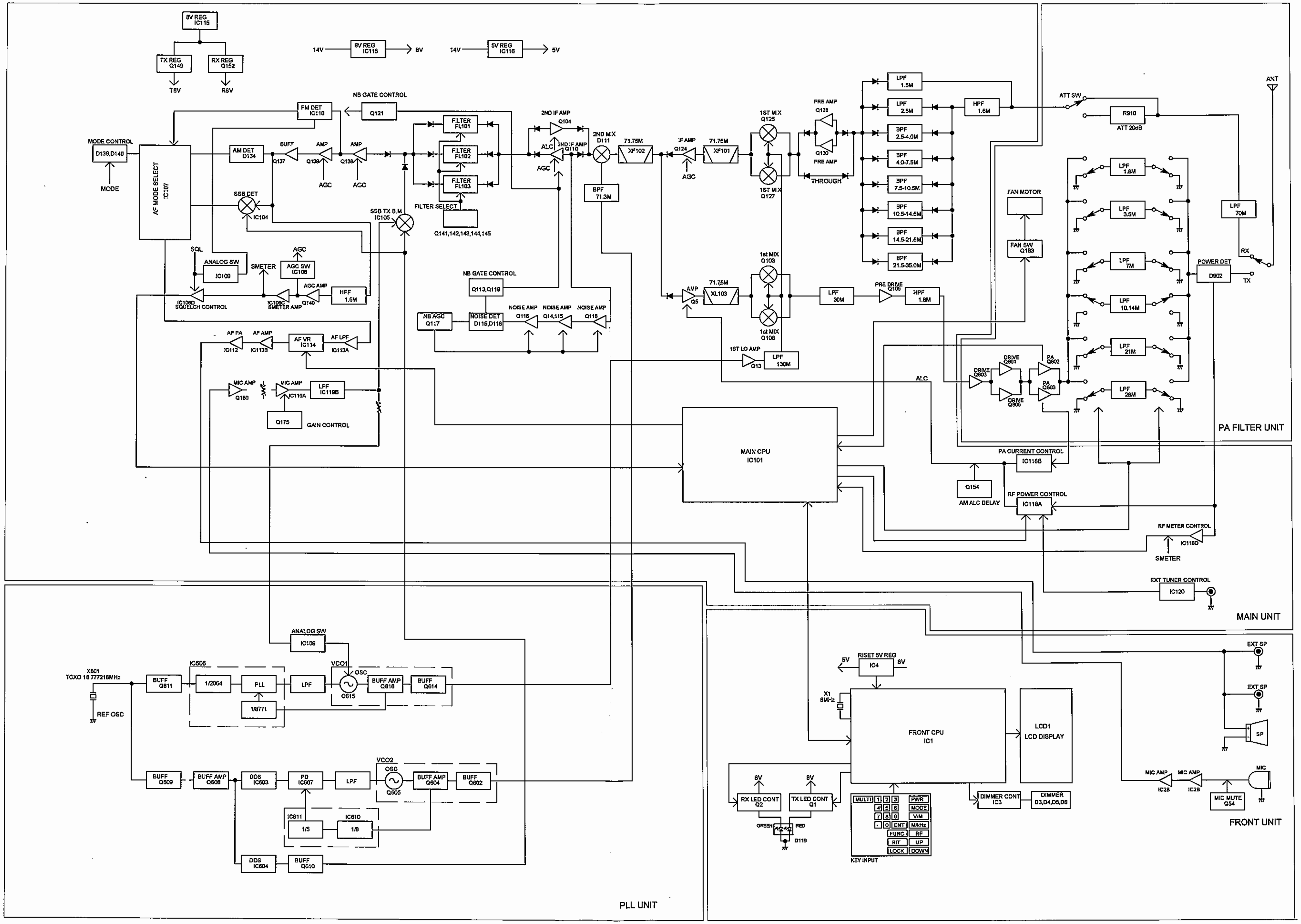


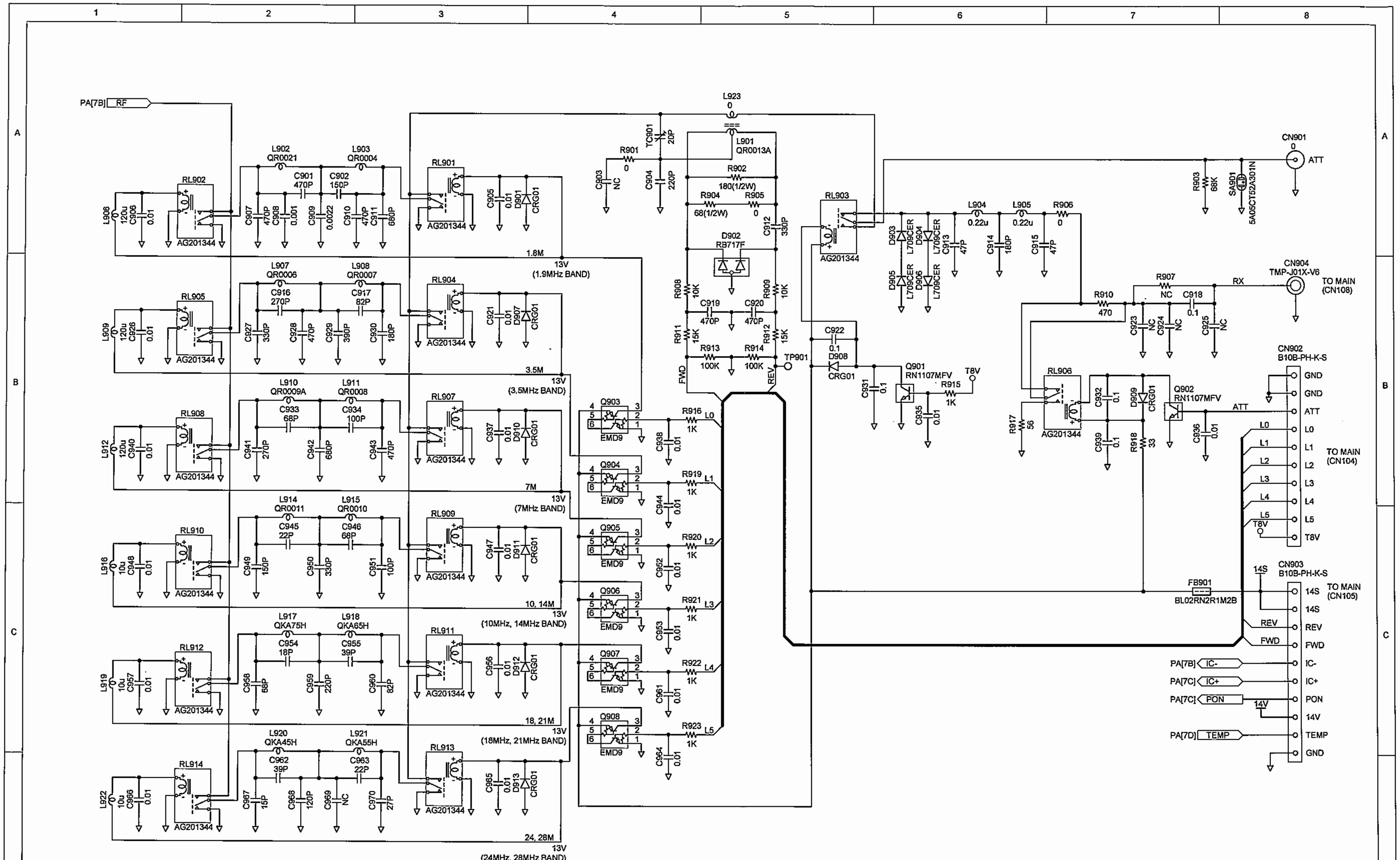
SCHEMATIC DIAGRAM

MAIN Unit (PLL)



BLOCK DIAGRAM





SCHEMATIC DIAGRAM

PA Unit (FILTER)